

American Forests *and* Forest Life



January, 1927

The American Forestry Association

Washington, D. C.

President

GEORGE D. PRATT, 26 Broadway, New York, N. Y.

Vice-Presidents

W. W. ATTERBURY—Pennsylvania
President, Pennsylvania Railroad

JOHN W. BLODGETT—Michigan
National Lumber Mfrs. Association

W. R. BROWN—New Hampshire
President, The New Hampshire Timberland
Owners' Assn.

ALLEN CHAMBERLAIN—Massachusetts
Special Writer, Boston Transcript

FRANCIS CUTTLE—California
California State Board of Forestry

HERMAN DIERKS—Arkansas
President, Dierks Lumber and Coal Company

ANSON C. GOODYEAR—Louisiana
President, Great Southern Lumber Company

GEORGE BIRD GRINNELL—New York
Author and Explorer

CHAUNCEY J. HAMLIN—New York
Chairman, Executive Committee, National
Conference on Outdoor Recreation

WILLIAM M. JARDINE—Kansas
Secretary of Agriculture

CHARLES L. McNARY—Oregon
United States Senator

GIFFORD PINCHOT—Pennsylvania
Governor of Pennsylvania

THEODORE ROOSEVELT—New York
Explorer and First Chairman, National Con-
ference on Outdoor Recreation

ALBERT SHAW—New York
Editor, Review of Reviews

LOUIS J. TAROR—Ohio
Master, National Grange

HORACE L. TILGHMAN—South Carolina
Former President, Southern Forestry
Congress

FRANK A. WAUGH—Massachusetts
Massachusetts Department of Education

WILLIAM ALLEN WHITE—Kansas
Editor and Author

MRS. FRANCIS WHITLEY—Iowa
Forestry and Wild Life Refuge Committee,
General Federation of Women's Clubs

Treasurer

GEORGE O. VASS, Vice-President, Riggs National Bank, Washington, D. C.

Assistant Treasurer

I. J. ROBERTS

Executive Secretary

OVID M. BUTLER, The Lenox Building, 1523 L Street, Washington, D. C.

Forester

SHIRLEY W. ALLEN

Business Manager

C. V. MAUDLIN

Board of Directors

J. E. ALDRED, 1926—New York
Chairman Board of Directors, Pennsylvania
Water & Power Company

ROBERT P. BASS, 1929—New Hampshire
Ex-Governor of New Hampshire

F. W. BESLEY, 1930—Maryland
State Forester of Maryland

HENRY SOLOM GRAVES, 1927—Connecticut
Dean of Yale Forest School

W. B. GREELEY, 1926—District of Columbia
United States Forester

AUGUSTUS S. HOUGHTON, 1929—New York
Camp-fire Club of America

FRANK O. LOWDEN, 1930—Illinois
Former Governor of Illinois

JOHN C. MERRIAM, 1926—District of Columbia
President, Carnegie Institution of Wash-
ington

GEORGE HEWITT MYERS, 1929—Washing-
ton, D. C.

JOSEPH HYDE PRATT, 1928—North Carolina
President, North Carolina Forestry Asso-
ciation

CHARLES SHELDON, 1927—District of Columbia
Author and Explorer

MRS. JOHN D. SHERMAN, 1928—Colorado
President, General Federation of Women's
Clubs

HENRY W. SHOEMAKER, 1928—Pennsylvania
Member of State Forest Commission

GEORGE W. SISSON, JR., 1930—New York
American Paper and Pulp Association

WM. P. WHARTON, 1927—Massachusetts
Director, Massachusetts Forestry Association

WHAT THE ASSOCIATION IS WORKING FOR

ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDE LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

Entered as second-class matter at the Post-office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918. Additional entry at Baltimore, Md., authorized July 23, 1925.

Member A. B. C.

Copyright, 1926, by The American Forestry Association

AMERICAN FORESTS AND FOREST LIFE

The Magazine of The American Forestry Association

OVID M. BUTLER, Editor

TOM GILL, Associate Editor

L. M. CROMELIN, Assistant Editor

Vol. 33

JANUARY, 1927

No. 397

Published monthly—35 cents a copy—\$4.00 a year.

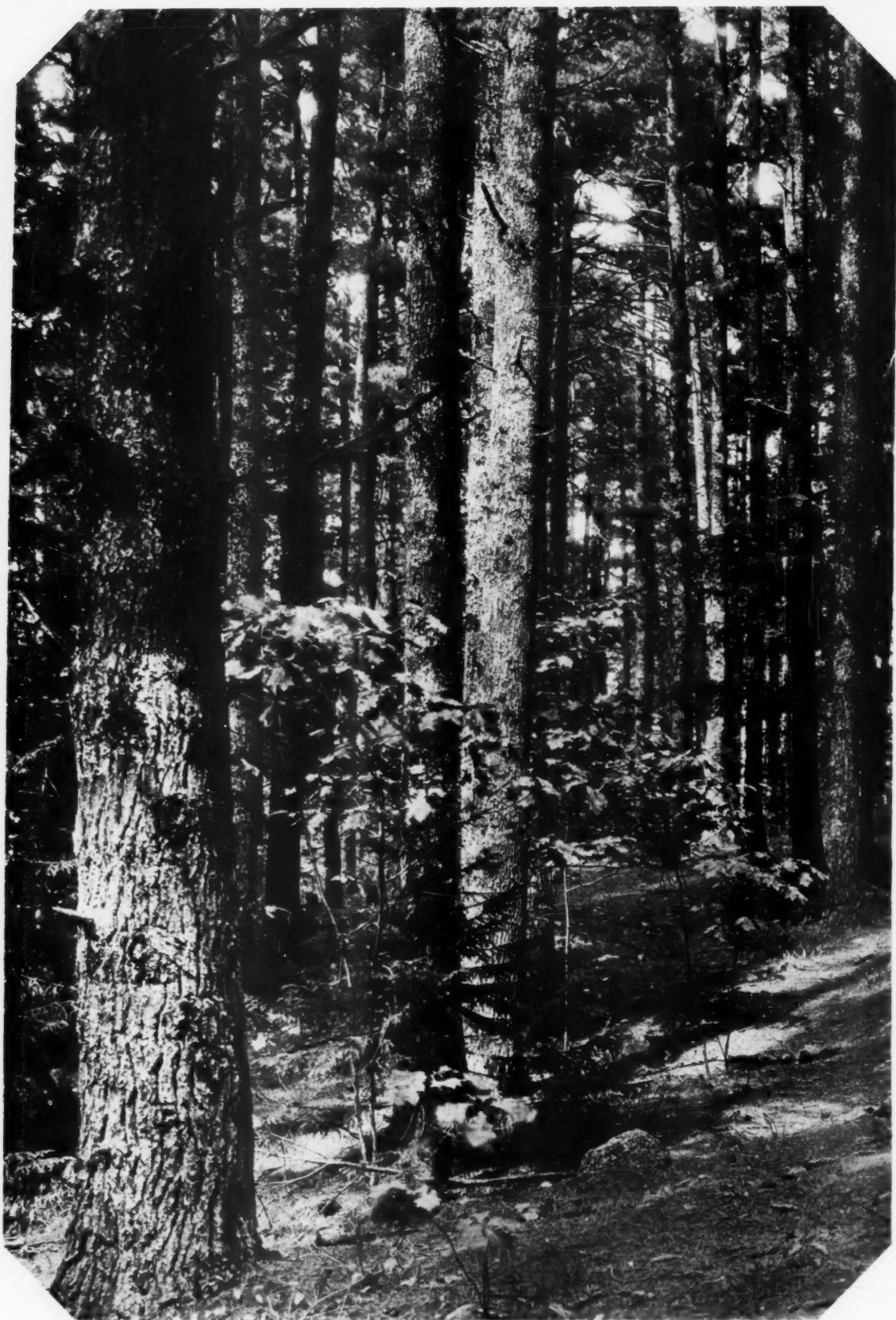
CONTENTS

FUTURE TRENDS IN NATIONAL AND STATE FORESTRY By W. B. Greeley.....	2
THE FIRE LOOKOUT ON BALDY Poem by S. Omar Barker.....	8
WINTER SPORTS IN THE ADIRONDACKS By H. W. Hicks.....	9
FORESTRY ITEMS IN THE APPROPRIATION BILLS.....	13
THE "NATIONAL LIBRARY TABLE".....	14
PAUL BUNYAN'S COMPASS By G. B. Mains.....	15
THE STORY OF A CANNIBAL FIR.....	16
BRINGING BACK THE BEAVER By Theo. H. Scheffer.....	17
THE ARCTIC MAIL By Alfred M. Bailey.....	21
PROGRAM OF THE ANNUAL MEETING.....	24
FOREST PEOPLE: A Wind-Break de Luxe By J. A. Cope.....	25
NINTH NATIONAL PARK CONFERENCE.....	27
A PLEA FOR THE BLUE SPRUCE By Thomas A. McBeth.....	28
EDITORIAL.....	29
INTERESTING TREES OF HAITI By A. T. Sweet.....	31
EASTERN WHITE PINE MOVES WEST By D. S. Olson.....	36
PINE "NEEDLE WORK" By George H. Dacy.....	37
THE HEATH HEN'S LAST STAND By Pendleton Dudley.....	39
CAMPAIGNING FOR FORESTRY IN TEXAS By W. Goodrich Jones.....	42
SAPLING SAM'S SCRAPBOOK.....	45
"WHO'S WHO" AMONG OUR OFFICERS: Charles L. McNary, Director.....	46
AROUND THE STATES.....	48
BOOK REVIEWS.....	62

GOOD THINGS FOR FEBRUARY

That February issue promises a timely article on National Parks by one of our foremost forestry educators. A prominent Canadian forester traces the progress of British Columbia forestry from its beginning to the present day. You will be told about growing and manufacturing cork—that colorful industry of Spain. The home life of the pelicans, the story of Maine's last caribou, a unique town that owns its trees—and lots more.

It's a number you'd be sorry to miss. So don't!



CATHEDRAL PINES—A MAGNIFICENT STRETCH OF FOREST ON PRIVATE LAND WITHIN
THE WHITE MOUNTAIN NATIONAL FOREST

AMERICAN FORESTS

VOL. 33

JANUARY, 1927

No. 397

Future Trends in National and State Forestry

By W. B. GREELEY

ONE of the most interesting political developments of the last 25 years in the United States is the skill—it might almost be called the genius—we as a people have shown in preserving the constitutional relationships between the States and Federal government and at the same time getting all manner of things done through voluntary cooperation. It has solved many economic, social, and educational needs in a big way.

First we sell a problem to the country. Then we set up a unified program. Then we assign parts of that program to the Federal government and to such States as voluntarily accept them. The genius of these movements lies in establishing a common conception of what ought to be done, in avoiding undue centralization of authority or function, and in stimulating state or local activities for doing the major share of it. In a word, I believe we have found the way whereby a democratic people, jealously adhering to their individual prerogatives and local forms of government, can unite in putting through developments of national importance in a comprehensive, national fashion.

While this is largely an old story, it is worth bearing in mind in considering the trends in national and state forestry. We are dealing with a form of land use that

is well nigh universal to all states in the Union. We are dealing with land four-fifths of which is in private ownership and subject to local taxing and police jurisdiction. We are dealing with a gradual economic evolution arising from the depletion of virgin resources, which directly affects the concerns of probably as many individual citizens as any other land or economic development of recent times. There is only one real criterion of our progress; namely, the extent to which the one-fourth of our soil adapted to timber culture is actually gotten into timber culture. We have passed the stage when forestry was mainly a crusade. Our progress will be measured by the degree to which forestry gets downward into the soil.

From the very nature of forestry, all the activities which may be summed up in that term should steadily become more localized, more and more fields of individual effort, more and more implanted in the everyday land and business usages

of the country. And we will be more successful in attaining that if we adhere to the principle of cooperation which aims at a common understanding of the needs and a common program for meeting them, but at the same time gets the program put over as far as possible by the individual and by the public institutions which



A TRAIL THROUGH THE PINES ON STAR ISLAND,
MINNESOTA NATIONAL FOREST

The timber on this island is managed chiefly with a view to preserving its scenic qualities.



WASTED ASSETS

P. S. Lovejoy

Lands such as this, where there exists no plan for future development, constitute an unnecessary financial drain to any locality.

are closest to the individual and most able to guide and assist his efforts.

It is significant that the States were well ahead of the Federal Government in launching movements of one sort or another toward forestry. In 1872 New York created a Commission to consider state ownership of "the wild land lying northward of the Mohawk." In 1883 New York began withholding tax-defaulted lands in the Adirondacks from sale and thereby created a nu-

cleus of 600,000 acres towards its forest preserves; and in 1885 began to build up its forest preserves by purchase. Michigan and Wisconsin both inaugurated inquiries into their forest conditions in 1867. In 1869 the Maine Board of Agriculture appointed a committee to report on a forest policy for the state. Between 1868 and 1872, eleven States passed bounty or tax exemption laws to encourage timber planting, all before the first Federal timber culture act. Forestry bureaus or com-



FOREST MANAGEMENT MEANS CONSTANT WOOD PRODUCTION FOR ALL TIME

Here, on the Shenandoah National Forest in Virginia is a stand of mixed hardwoods, after a portion of it has been removed for fuel wood.



S. T. Dana

ENHANCING ASSETS

On land governed by a forest policy, barren forest soil is converted into revenue producing property. A plantation of Scotch pine on a Michigan State Forest.

missions were inaugurated in a number of States during the 80's. Pennsylvania was in the lead of the Federal Government in inaugurating a real program of forest ownership.

Then came a period when national developments took the center of the stage, and the vigorous leadership of Roosevelt and Pinchot established a national conservation policy and a national forest program of commanding proportions. In its later developments, this na-

tional program has defined the basis on which the Federal Government will deal with our forestry problem in the broad. It has accepted the cooperative principle. It has passed the ball back to the states. It anticipates and prepares the way for the outward spread of forestry under state leadership.

I believe that the Federal policy dealing with forestry may, with the enactment of the Clarke-McNary law, be regarded as complete for many years to come. It is an



J. A. Cope

SUPERB VETERANS OF LOBLOLLY PINE

There remain only a few such stands as this—even within the State Forests of Maryland. The oldest individuals have reached about 80 years.

integral part of this policy that for the main progress in getting forestry into the ground, we must look from now on to action by the states and to other localized efforts. I do not ignore the striking and encouraging developments in state forest activities which have taken place concurrently with the developments on the part of the National Government. Nor do I minimize the necessity for greater effort on the part of the Federal Government to make its own deliberately adopted program effective and to carry its part thereunder. But the principal idea which I wish to emphasize is that from the nature of forestry as a country-wide use of land and from the nature of the program which has been adopted and to which I presume we all subscribe, the development of greatest importance from this time on should be in the forest policies and activities of the states and in the forest undertakings of local institutions and individual citizens which the states can most directly aid.

With this general background, I will give my viewpoint briefly on some of the trends in National and State forestry which lie ahead of us. The first has to do with public forest ownership. Perhaps the greatest single obstacle to the rapid spread of timber growing in the United States is the unstable ownership of forest land or ownership which contemplates only temporary use or benefit from the land. Our forest land, in round numbers, is split up approximately as follows:

Federal Government.....	89,000,000 acres
States	10,500,000 acres
Municipalities and counties.....	700,000 acres
Large private owners.....	220,000,000 acres
Small private owners.....	150,000,000 acres

The Federal Government may be said to have adopted a stable policy of administration for the great bulk of its forest lands in the Continental United States, although this is not true of an immense area of second rate forest land in Alaska. The state forest holdings vary from highly stabilized to wholly unstable. About 63 per cent of them, or 5,500,000 acres, is under perma-

nent administration as state forests or state parks, while nearly 5,000,000 acres more is either subject to sale or is being held with no definite policy or plan for future development. Instability of ownership and uncertainty as to future use are still characteristic of the larger private forest holdings; but a strong trend toward greater permanency of ownership and productive use is evident. This trend constitutes one of the most significant and encouraging features of the present situation.

I have great faith in the future of industrial forestry and farm forestry but their extension will be gradual. Our National and State efforts should aim to promote it through every rational and practicable line of encouragement. As practical men, however, we must all appreciate that the development of industrial forestry and farm forestry, while in the long run reaching the bulk of our forest lands, is going to be slow. Speed it up as much as we can, it will take a long time for a great economic movement of this nature to work itself out.

Meanwhile I feel it incumbent upon public agencies to put greater stability into our forest land situation, where it is most needed and where it will exert the best demonstrational influence, by a vigorous extension of public forest ownership. And in line with the general precept of localizing forestry effort and identifying it with the state or community, I would urge particularly the extension of public forest ownership, with per-

manent forms of administration, by states, counties, and municipalities.

From the standpoint of stabilizing the forest land situation, it is particularly important to extend public ownership in the classes of forest land which present the greatest difficulties and problems in profitable reforestation. I have in mind particularly the poorer forest soils with slow growth rates, areas subject to the more extreme hazards, and areas whose present denuded condition holds out the least prospect of restoration under private ownership. I have in mind the land-bankruptcies which are a serious factor today in many counties.

WE are dealing with a gradual economic evolution arising from the depletion of virgin resources.

There is only one real criterion of our progress; namely the extent to which one-fourth of our soil, adapted to timber culture, is actually got into timber culture.

We have passed the stage when forestry was mainly a crusade. Our progress will be measured by the degree to which forestry dips downward into the soil.

I believe that the Federal policy dealing with forestry may, with the enactment of the Clarke-McNary law, be regarded as complete for many years to come.

For the main progress in getting forestry into the ground we must look from now on to action by the states and to other localized efforts.

Perhaps the greatest single obstacle to the rapid spread of timber growing in the United States is the unstable ownership of forest land or ownership which contemplates only temporary use or benefit from the land.

The more demonstrations we can get in all parts of the country of good forest practice and profitable forest management, the more will the whole process of reforestation by all agencies be stimulated.

I do not think it unreasonable to have one-third of the forest lands in the United States under public administration.

I do not want to see any National Forest created in localities where it is not thoroughly welcomed by the state forest agencies or where there is not a real opportunity for the national government to be helpful in solving local forest problems and stabilizing the local forest situations.

I doubt if there is any single item in the whole program that will give it greater strength or greater public appeal or a more specific focusing point for public action than state forest ownership on a generous scale.

owing to the presence of large areas of denuded or poor land with a future wholly uncertain under present ownership, where public forest administration would not only stabilize the forest situation but aid in general economic and social stabilization.

At the same time, by no means should public forest ownership be limited to the dregs in the pot. The expansion of public activities in this field must carry a popular appeal, not only as meeting an urgent problem in land utilization but as offering substantial public returns in the long run. Moreover, the more demonstrations we can get in all parts of the country of good forest practice and profitable forest management, the more will the whole process of reforestation by all agencies be stimulated. In meeting these needs the public forest administrator should have some good and well-stocked land to work with.

For many reasons, including the stimulus to local initiative, the commendable pride in local public achievement, and the beneficial influence of active state participation in timberland management upon all phases of local public policy dealing with forestry, a vigorous extension of state forest ownership is desirable. It should



A FOREST OF TOMORROW

Protected by the mother trees, these young spruce seedlings on the Pisgah National Forest in North Carolina are forming wood tissue for the benefit of unborn generations.



A STATE FOREST IN CONNECTICUT

Lands that have been dedicated by the states to timber production are playing an increasingly important part in the state's local wood industries.

be designed primarily perhaps to fill in the gaps where farm forestry and industrial forestry can not reasonably be anticipated. But it may well combine with this function the administration of areas where timber growing is of special urgency to maintain established manufacturing communities or other community interests and areas adapted to demonstrations of the best and most profitable forest management.

In broad terms, considering our forest situation in the United States and drawing upon the experience of the most progressive forest countries of Europe, I do not think it unreasonable to get one-third of the forest land in the United States under public administration. This would mean the acquisition by all public agencies of about 60 million acres more, including the 5 million acres already in state ownership but not yet under any permanent form of administration. Such ownings should be widely distributed. There should be some of them in every state, and broadly speaking in every important forest region of every state. They should strike at

the heart of the most serious idle land situations. They should serve as centers of the best sort of forestry education, by demonstrating good practice adapted to our immense range of soil, climate, and forest types.

The part which the Federal Government should take in this development is to me quite clear and, I believe, well defined by existing legislation. To the public land forests of the West, we should, as a matter of Federal housecleaning, add the 4 or 5 million acres remaining in the unreserved public domain which is chiefly valuable for growing timber. Beyond that we should consolidate the Federal holdings, under our exchange authority, within the natural units of forest management already established by the existing forest boundaries but without any material extension of such units. In the Eastern States, 2,760,000 acres of National Forests have been purchased to date, mainly under the Weeks Act. The purchase program set up when the Weeks Law was passed has been 46 per cent completed. About three million acres more should be acquired to carry out that program with reference primarily to the protection of watersheds of navigable streams.

The Clarke-McNary act of 1924 extended the conception of National Forest purchases along the lines which I have touched upon—of stabilizing the general forest land situation and aiding the reforestation movement at the most critical points presented by large areas of denuded land. The plan which we have proposed to make that feature of the law effective provides roughly for the acquisition of about 5 million acres, divided equally between the cutover regions in the Lake States and the cutover regions in the South, with the purpose of placing the new National Forests in the sections where they would have the greatest value as aids to local progress.

The cooperative principle built into the whole structure of the Clarke-McNary act should control this feature no less than all the others. I do not want to see any National Forests created under its terms in localities where it is not thoroughly welcomed by the state forest agencies or where there is not a real opportunity for the national Government to be helpful in this way in solving local forest problems and stabilizing the local forest situation.

All told, aside from consolidating the western National Forests, the acquisition of 8 or 10 million acres under the Weeks and Clarke-McNary acts represents to me about what the Federal Government should undertake by way of additional forest ownership. Its total holdings in the States east of the Great Plains will, I believe, always remain a small fraction of their aggregate forest area.

This will leave the great bulk of the additional public ownership which I have set up as a general target to state or other local undertakings. That in my judgment is entirely as it should be. I believe that the population, financial resource, industrial interests, and pub-

lic sentiment in the great majority of the states, particularly in the Eastern states, are able and ready to support a large expansion in state forest ownership, with whatever aid it may be possible to secure through county or municipal forests. And while we should go right ahead with full steam in developing fire protection, forest taxation and other encouragements of industrial and farm forestry, I doubt if there is any single item in the whole program that will give it greater strength or greater public appeal or a more specific focusing point for public action than state forest ownership on a generous scale.

Just as more public forest ownership will aid in stabilizing the general situation, equally I believe will it aid in stabilizing the forest policies and forest administrations of the states. The very responsibility and obligations assumed in the public administration of forest land will tend to give state forest organizations the stability, the technical development, and the public standing which they need to function most effectively. This has certainly been true of the National Forest Service, and I believe it will be equally true of any state forest service.

The Fire Lookout on Baldy

By S. OMAR BARKER

I'm sittin' alone on the top of a peak,
The dry wind of June loafin' by.
A mile down the mountain is Clearwater Creek,
And half as far up is the sky.

The last of the snowdrifts are sneakin' away,
The low hills are dry as can be,
And so I'm a-sittin' here day after day,
On watch for their old enemy.

All laid out below me in patterns of green,
Are pine groves and fir trees and spruce—
But way over yonder one slope can be seen
That's barren and stark as the deuce.

Oh, nights when the moon is a clear white lamp,
And forests to blackness are turned,
Across on that slope in a great silent camp
Come ghosts of the trees that have burned.

And so in the dawn the green woods all around
Look up at old Baldy and me
To send us, without ever makin' a sound,
The true-hearted thanks of the tree.

For stayin' on guard lest by night or by day,
Flames ravage the fir trees and pine.
Do you think I would watch here for mere money pay?
The friendship of forests is mine!

And so I'm a-sittin' alone on a peak,
The soft wind of June loafin' by—
The trees are my friends down on Clearwater Creek,
And it isn't far up to the sky.

Winter Sports in the Adirondacks

By H. W. HICKS

IT HAS taken twenty years to prove to a prejudiced and unbelieving world that winter in the Adirondacks is not cold. The common belief still exists that people coming to the Northwoods in winter are a strangely deluded body of sport-fanatics. Their oft repeated stories that cold weather in the Adirondacks is not cold but only appears to be is still taken by many with the proverbial grain of salt.

Another fallacy is current that when snow flies all outdoor life must come to an end except for small children who use flexible fliers or skate with cold toes. Still another misjudgment is that trails along mountain streams and lakes and even over mountains or through Avalanche and Indian passes can be traversed with pleasure only in summer when mosquitoes, black flies, midges and a hot sun make life more or less intolerable.

From a small beginning twenty years ago to the present time, slowly at first and in the last ten years with increase speed, the unique pleasures and physical benefits of a winter vacation spent in vigorous outdoor exercise on snow and ice have appealed to larger numbers of people who never before could endure the thought of a winter vacation except in warmer climes. Last January a party of six hardy mountaineers of the Appalachian Mountain Club left the Lake Placid Club by sleigh in the late afternoon, arriving at a small shack in the woods on

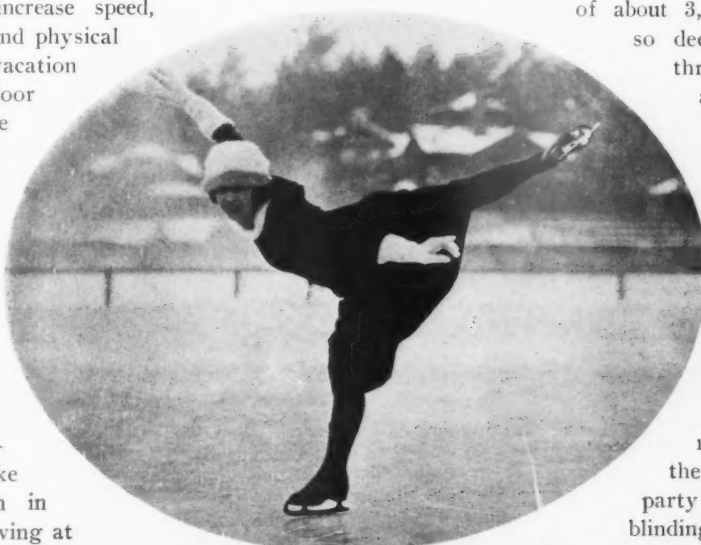


THE LODGE, DECKED OUT FOR
A NEW YEAR'S PARTY

The lure of the Northwoods is annually drawing thousands to Lake Placid for the winter sports during the holiday season.

Hart Lake at Adirondack Lodge, ten miles away. There the night was spent. Early next day they started on snowshoes for Mt. Marcy, the peak of which lay six miles away and more than a mile above sea level. The climb involved an ascent

of about 3,200 feet through snow so deep that when passing through the scrub spruce at the timber line the thick branches that in summer are well above the heads of trampers were on a level with their knees and made it necessary to shoulder their way through as if no trail existed. A driving blizzard was raging. The ascent for the last mile exposed the party to fiercest gales, a blinding attack of fine pelting snow, while on top of the



A STAR PERFORMER AT THE ICE CARNIVAL



CROSS COUNTRY SKI RUNS DEVELOP ENDURANCE AND SKILL, AND THE GIRLS ARE ALWAYS ENTHUSIASTIC PARTICIPANTS

mountain and it was impossible at times to prevent being blown bodily off the cliffs except by anchoring themselves with Alpine ice-axes driven into the hard frozen snow. After a quicker descent they reached the Lodge at the base of the big range, drove back to Lake Placid and were comfortably refreshing themselves at dinner by seven-thirty. They have not ceased to talk of the beauties of the snow and the inspiration of the marvellous scenes unfolded before them in spite of the driving storm.

Shortly thereafter a party of six, comprised of three young women, two young men and a chaperone, all skiers, left the Club for a 15-mile cross country run. They sent their camping equipment ahead by dog train and sledge to a point on Marcy Brook selected in advance for their bivouac. An Indian tepee tent made by Indians at Banff furnished over-head protection. Eiderdown sleeping robes served for beds. Two feet of snow was cleared away to pitch the tent, a fire was built in the middle of the circle

covered by the tent and the party spent a thoroughly comfortable night. The second day out the party returned leisurely by a 25-mile ski run through the old Mountain Road toward Keene to Clifford Falls, thence over the Sentinel range through the notch down by a $3\frac{1}{2}$ -mile coast to the West branch of the Ausable River and 5 miles further to the Club. With one exception this party was composed of skiers who a few years ago had never placed foot in a ski binding. Their children will often be thrilled, as were many of their envious companions, with fireside tales of the adventure.

Another winter sportsman who has seen war days on the Italian and Austrian Alpine front in the World War demonstrated the "snow bath" by taking one night (in nature's first garb) three full rolls in the snow before retiring. The thermometer at that time was 18 degrees below zero. Next morning he treated himself to three more at 28 below. From his reaction as he started with two others to ascend Marcy on skis it is



H. Armstrong Roberts

"GREAT WAS THE FALL!"

not surprising that the finish of this trip at six in the evening found all going strong and ready for four miles more to the point where a sleigh was waiting.

These instances represent the accomplishments of a few of the more experienced and vigorous. Each year witnesses a large increase of both skilful skiers and novices. The lure of the Northwoods as it is revealed at Lake Placid annually draws thousands to try the life for the first time and they in turn become enthusiastic boosters to their friends.

And for them there are many and varied forms of sport. Skiing is the universal form of winter outdoor exercise. Skating is a close second. It is almost literally true that "everyone under 80 skis, skates and wears bright colored knickers." The days are filled with a variety of other snow and ice activities among which tobogganing comes third in popular esteem. Ski-joring appeals to the more adventurous, and is followed in popularity by snowshoeing. Sleigh riding, especially on heavy bobs with a big box filled with straw and robes to protect from the cold, accounts for many happy evenings on the way to some camp in the woods where flap-jacks and coffee, or the more conventional steak or chicken dinner, are enjoyed.

"Ski-joring" is both a Norwegian word and a Norwegian sport. It consists of driving a horse with a light harness of ropes about 20 feet long to which is attached a pole long enough for two skiers to grasp. When ski-joring races are announced and fifteen or twenty couples are entered, the skiers being partly inexperienced, it is certain that many a horse will be turned loose before the first quarter mile flag has been passed. Almost surely there will be a jumble of skis and skiers in confusion on the snow and a horse or

two flying toward the stable with ropes high in air. But the sport is fascinating.

Adirondack snows follow so soon after the formation of the first black ice that ice-boating is rarely possible until the warm suns of March melt the snow on the lakes. With frequently recurring frosts, and the proverbial March winds that in the North country have

no terrors to winter-sportsmen, ice-boating, skate sailing, and often ski-sailing provide a variety of excitement as well as thorough tests of skill. But the chief glory of a winter amid the snows is the cross-country trip. The ski was first used a thousand years ago in Norway as a means of locomotion between farm and village for barter and other business. No railroads existed. Socially the long winters were for many tolerable only by use of the ski, their sole method of going about.

In present times the ski has become chiefly a means of pleasure and its primary value is that it enables one to traverse the country with fully as great speed and pleasure as in summer. To a lesser degree the snowshoe is used for the same purpose. Most of the trails through the Adirondacks

have been opened for the tramper, but they are often narrow, tortuous and too steep for the skier. Some parties ascending the higher mountains use both skis and snowshoes, the skis being left at the foot of the steeper grades after the longer distances over the foothills have been covered. They are stacked in the snow and the rest of the distance is made on snowshoes.

But in recent years the number of skilful skiers has grown and not infrequently parties of both men and women make the trip to some of the higher peaks by skis alone. This development of skiing is resulting in



H. Armstrong Roberts

THE "FLYING MERCURY" TAKES OFF IN A SKI JUMPING CONTEST. THIS SPORT OFFERS MANY THRILLS, AND EVEN THE NOVICE IS KEEN FOR PUNISHMENT!

widening and straightening the foot trails to give room for side-stepping and herring-boning to ascend steep grades. The use of "seal-skins" clipped to the bottoms of the skis aid greatly in both going up and down steep slopes.

These wider trails also make speedy descents on skis possible. One such trail

recently opened by the Camp and Trail Club of the Lake Placid Club, following the route of an old log or tote road, requires two and a half hours to ascend four miles and twenty minutes for the return trip.

The long distance ski races arranged annually by most outing clubs are multiplying the number of skiers capable of taking these longer trips through the woods and over mountains. But it is the glory of winter sports not only in the Adirondacks but

throughout New England and all through the Middle and farther West that skiing is being taken up by all who love the open air and that the forests are being opened to the public at seasons when

hitherto it had been supposed that

only the trapper could survive

in the woods. The colleges have taken up

winter sports in earnest. Scattered from

the University of

Maine to the University of Wisconsin

teams of skiers,

snowshoers and skaters come to Lake Placid for the famous college

tournament at the end of

Christmas week. The races include long and short distances

for skiers, snowshoers and skaters,

with proficiency tests in stops and turns commonly used in cross-country runs. Then follows the

ski jump where both courage and skill are large fac-



A TINY "SKI-JORER" AND HIS STEED



HALF OF LAKE PLACID CLUB'S SKATING RINK, SHOWING OPEN SKATING AREA, FIGURE SKATING RINK, CURLING RINK AND PART OF THE SPEED SKATING TRACK. THE PINE-THATCHED SHELTER, MADE OF BLOCK ICE, IS ILLUMINATED AT NIGHT FROM WITHIN AND COLORED LIGHTS ARE STRUNG OVERHEAD. THREE OF THE HIGHEST PEAKS IN THE ADIRONDACKS, MTS. MARCY, MacINTYRE AND GOLDEN, ARE SEEN IN THE BACKGROUND

tors. It is not an uncommon experience to see college men who before entering college never wore a ski jumping from 100 to 150 feet on the leading hills of the snow belt. As high schools and preparatory schools take up winter sports the number of young men in colleges making enviable records will rapidly increase.

Recent organization of the Intercollegiate Winter Sports Union, including colleges in both the United States and Canada has resulted in a rapid increase of interest in winter sports and keener competition in the district and national tournaments. The well-known college week tournament at the Club during the Christmas holidays draws annually teams and individual entries from fifteen or more colleges as widely separated as the University of Maine and Wisconsin University, and from McGill, Ottawa University and Toronto University.

Winter sports have become rapidly more popular during the last ten years. But they are still in their infancy. They need encouragement throughout the snow areas of the country by both private and public

agencies in a position to foster them. The National Ski Association, the United States Eastern Amateur

Ski Association, the International Skating Union and the United States Figure Skating Association are all committed to the development of amateur participation in tournaments of skiers, snowshoers and skaters. The public has shown approval by ever increasing attendance at competitions, specially at ski jumps. It remains now for the communities favorably situated to incorporate winter sports in their public school, park, play-

ground and health department policies. It is a tradition at the Lake Placid Club that when the thermometer rises above zero people begin to pack their trunks. This, I think, illustrates the contagion of winter life. The nation will be happier when winter sports "take" like measles, except that once "taken" the only desire is to continue enjoying these sports for the remainder of one's natural life. For stern winter has become a time of tingling red-blooded recreation and the North woods an unsurpassable elysium.



THE NATIONAL GAME,—AT 20 BELOW! BASEBALL ON ICE SKATES WOULD FURNISH A TEST FOR THE "BIG LEAGUERS"—AND THE SNOWBIRD TEAM HAS A GREAT TIME

Forestry Items in the Appropriation Bills

Several increases appear among the forestry items in the Agricultural Appropriation Bill for the fiscal year 1928, H. R. 15,008, due to pressure by several conservation groups including the American Forestry Association.

The Bureau of Budget recommendation for Forest Roads and Trails amounting to \$7,500,000, an increase of \$2,500,000 over the current year was cut \$1,000,000 by the House Committee on Appropriations but still represents a \$1,500,000 increase.

Under miscellaneous wages and general administration of the Forest Service, appears an increase of \$127,027 of which \$77,285 is to be used for fire prevention on National Forests.

Cooperative Fire Protection under the Clarke-McNary act shows a gain of \$290,000 or a total of \$1,000,-

000 and Cooperative Farm Forestry under the same act an increase of \$10,000 or a total of \$60,000.

Acquisition of Forest Land under the Weeks and Clarke-McNary acts appears at the same old \$1,000,000 but encouragement may be taken from the President's reference to the McNary-Woodruff bill in his message where he indicates that consideration will be given to the inclusion of another million if Congress passes the latter measure.

Fire Weather Warning under the Weather Bureau, which is badly in need of a \$7,000,000 increase is granted only \$18,456, the same amount that appears in last year's bill.

The item for fire protection on the public domain which was recognized for the first time in last year's Interior Department bill the sum of \$25,000, but which can be handled properly for not less than \$75,000, failed

to secure recommended increase from the Secretary of the Department of the Interior, the Budget Bureau or the House Appropriations Committee.

Both the Ohio-Mississippi Valley and Middle Atlantic Forest Experiment Stations are provided for at \$30,000 each. The Forest Products Laboratory is given no increase, although the Budget recommended \$40,000.

Western Blister Rust Control will receive \$100,000 increase over the Budget recommendation. The total in the bill for all Blister Rust work is \$471,520.

The Agricultural Appropriation Bill passed the House December 21 and the Senate Appropriations Committee planned to begin work on it at once. Concerted effort will be made to secure certain increase in the Senate.

The "National Library Table"

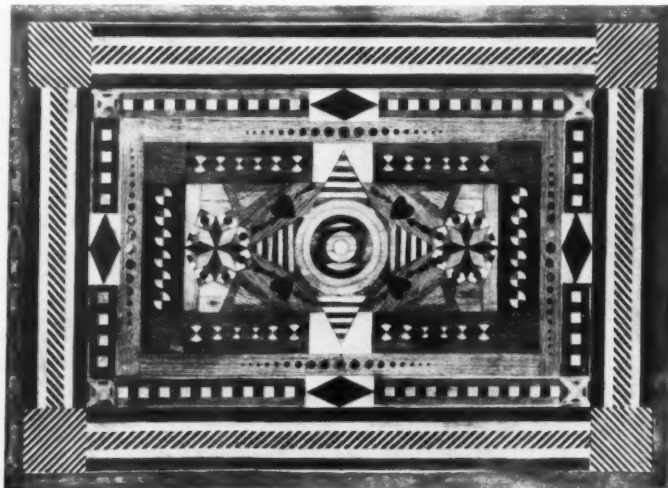
IN designing and executing the plan of the "national library table" Gordon H. Turner, when instructor in Manual Arts in the Greenwood, Mississippi High School, did a unique piece of work. Inspired with a love of our native trees, he conceived the idea of an inlaid table top, to be worked out with various woods grown in every state in the Union. Later it was decided to enter also woods from our four major possessions,—Alaska, Cuba, Hawaii and the Philippines. The selection of representative woods was the first step, and in this Mr. Turner had the cooperation of the United States Forest Service, of the various state foresters and lumber and conservation organizations. Then the specimens began to come in from all over the country. In several instances the material was selected personally by the state foresters, and so the quality of lumber, woods of beautiful grain and texture without defect or blemish, were secured.

Many of the specimens were rare, of woods rapidly becoming extinct and probably such another complete collection intact will never be found. The design is beautifully symmetrical, and contains practically all geometrical figures, arranged so the best color contrasts could be secured. They are vivid from the outside border of hickory and walnut to the center of seven vari-colored circles. Redwood from California, white pine from Maine, red lauan wood from the balmy Hawaiian Islands, magnolia from Florida inset with red alder from the snowy slopes of the Cascade mountains of Washington, and white mahogany from the Philippines are only a few of the rare and beautiful woods used. The table weighs 250 pounds, is 46 by 64 by 32 inches high, and is finished in natural colors with 26 applications of boiled linseed oil, clear shellac, interior

oil varnish and furniture wax. The frame and base are made of quartered white oak of the finest quality and the inlaid top contains 5,022 pieces of wood, necessitating the drilling of 1,688 holes and the use of 828 dowels and screws in construction.

Following is a list of the woods, together with the state from which each came: Red Gum, Alabama; Western Yellow Pine, Arizona; Shortleaf Pine, Arkansas; Red-

wood, California; Engleman Spruce, Colorado; Black Birch, Connecticut; Black Locust, Delaware; Magnolia, Florida; Persimmon, Georgia; Idaho White Pine, Idaho; Hardy Catalpa, Illinois; White Oak, Indiana; Silver Leaf Maple, Iowa; Cottonwood, Kansas; Yellow Poplar, Kentucky; Cypress, Louisiana; Northern White Pine, Maine; Chestnut, Maryland; White Ash, Massachusetts; Beech, Michigan; Basswood, Minnesota; Longleaf Pine, Mississippi; Western Larch, Montana; Hackberry, Nebraska;



THE "NATIONAL LIBRARY TABLE" TOP

Inlaid with 5,022 pieces of wood from every state in the Union and our major possessions, this beautiful piece of work, done in an ordinary school manual training shop, is a striking example of the many possibilities of so-called "manual training" in original and formative as well as utilitarian educational values.

Aspen, Nevada; Paper Birch, New Hampshire; Southern White Cedar, New Jersey; Mexican Walnut, New Mexico; Red Spruce, New York; Hickory, North Carolina; Butternut, North Dakota; Buckeye, Ohio; Osage Orange, Oklahoma; Oregon Ash, Oregon; Black Cherry, Pennsylvania; White Elm, Rhode Island; Holly, South Carolina; Red Elm, South Dakota; Red Cedar, Tennessee; Post Oak, Texas; Utah Juniper, Utah; Hard Maple, Vermont; Sycamore, Virginia; Red Oak, West Virginia; Yellow Birch, Wisconsin; Lodgepole Pine, Wyoming; and Yellow Cedar from Alaska; Jenizero from Cuba, Red Lauan from Hawaii and White Mahogany from the Philippines.

The table may well qualify as a museum piece. A decision has not been made, but it has been suggested that it be placed in the National Museum at Washington, D. C.

Paul Bunyan's Compass

*A Hitherto Unpublished
Yarn Shedding Light on
a Moot Question in
Northern Michigan*

By G. B. MAINS

THIS is a story of Paul Bunyan I have never seen in print. It was told me by my grandfather, a native of the Maine woods, who emigrated to the pineries of Wisconsin when they were new.

Grandfather's first winter was spent in the camp of Joe Savoy, one of Paul Bunyan's foremen, on the Eau Claire River. Paul's headquarters camp was over on the Mississippi at that time, but a distance of one hundred and fifty miles was nothing to this remarkable man, and he made frequent visits to Joe Savoy's camp in the months my grandfather worked there.

During the winter Savoy became involved in a dispute with a neighboring logger over the boundaries of their timber holdings. So one day, in late February or early March, Paul came over to the Eau Claire camp with his compass to run the lines.

This compass was a huge copper affair, made especially for Paul, and weighed a score or more of tons. The tripod was of hewn white oak masts eighteen inches thick and twenty feet tall.

Paul arrived at the camp about noon and right after dinner he and his lieutenant, Savoy, started out to survey the disputed boundary, taking my grandfather along as axman.

They found the section corner without trouble; ran the line up to the quarter corner, and started to subdivide the section. Then it began to snow. Gently at first, a few white flakes sifting down through the green pine boughs; then faster and faster until it became difficult to see a rod before them.

About this time the surveying party noticed a peculiar thing. The snow had taken on a bluish shade and became darker and darker. This was the beginning of the storm destined to go down in the history of the white pine regions as the "Blue Snow."

Paul decided to give up his surveying for that day and, shouldering his compass, started for camp, followed by his men.

So thick was the falling snow and the semi-darkness caused by its color, that all land marks were obliterated

and Paul, superwoodsman that he was, lost his bearings and missed the camp. After traveling a score of miles or more, he realized that something was wrong, so he set up his compass to get his direction, but the needle refused to settle and whirled wildly around the dial.

Suspecting that the peculiar atmospheric conditions had disturbed the magnetic currents, he decided to trust his own instinct and again started out with his crew in the direction he believed camp to be.

They traveled for two hours or more and then came upon some dim tracks in the snow. This encouraged them, as they took them to be the tracks of some of their woodsmen going into camp, but, after following a short distance, they came to a notched blaze on a white pine, which my grandfather remembered making as a mark at the end of the line they were running.

Paul was no longer able to conceal from his men the fact that he was lost. This confused and irritated him, but he controlled himself and said, "Well, we know where we are anyway. We will set up the compass and run a line back to camp. In that way we can't miss it."

So he adjusted the compass on the tripod again, leveled it, and watched for the needle to settle with its magnetized point to the north.

But the storm which caused the "Blue Snow" was no ordinary one, and must have been accompanied by unusual electrical conditions, for the compass needle refused to settle and point in any given direction, but whirled, and jumped, and shimmied like a dancing dervish.

Then Paul became enraged and swore several mighty lumberjack oaths, apostrophizing the compass in this manner: "You, you!!! compass! If you don't point for Joe Savoy's camp, I'll break you."

Then he gave the compass an angry spin on its pivot, leveled it, and waited for it to settle with its needle pointing north as a well trained compass should; but the needle continued to whirl and dip crazily.

Engaged beyond control, Bunyan seized the compass,

and, with a mighty heave of his powerful shoulders and arms, hurled it from him, tripod and all, over the tree tops into the storm, and started to back track to camp.

Fortunately, the moon shone out for a brief space through a rift in the clouds, so he was able to get his bearings and the party reached camp late that night, very tired and weary, after the crew had all gone to their bunks.

Paul swore his foreman and my grandfather to secrecy as to what happened, and gave out the next morning that he had stumbled in the darkness the night before while crossing a swamp and lost his compass in a pool.

The four feet of blue snow that covered the ground was the principal topic of conversation for the rest of the winter, so Paul's mishap caused little comment and was soon forgotten.

Savoy and my grandfather kept their promise to Paul, because they were honorable men, and probably, also, because he had threatened if they ever told, to tie their legs about their necks so tightly they would choke to death, a feat which they knew he was perfectly capable of performing.

Years after this incident, and while I was yet a youngster, just beginning to read the newspapers, I found an article telling how a mass of pure copper resting on hewn timbers, and supposed to have been mined out by the Mound Builders, or some other pre-historic race, had been found on the northern peninsula of Michigan.

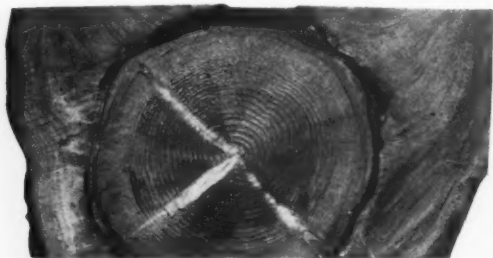
I took the article to my grandfather to ask him some questions about it. He put on his spectacles, read the article once, again, and a third time, gazed off into space thoughtfully for a while; then told me this story and gave it as his opinion that the mass of copper was none other than the crumpled remains of Paul Bunyan's compass, and the hewn timber it rested upon what was left of the tripod.

For forty years I have kept the confidence of my grandfather, but since he, Joe Savoy, and Paul Bunyan have followed the last great drive of white pine down the Mystic River to the mills in the Great Beyond, I can see no harm, and possibly some good, in correcting a historical statement and giving to the public what I believe to be the true facts concerning the finding of that mass of pure copper on the Upper Peninsula of Michigan.

The Story of a Cannibal Fir

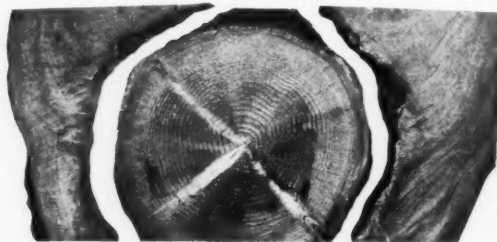
AN outstanding example of the survival of the fittest, or the crushing of the weak by the strong, is recorded by Richard E. McArdle, of Portland, Oregon, in a recent issue of the *Four L Bulletin*. Mr. McArdle tells the story of a Douglas fir, a small and

The photographs, made from a cross section taken from the "double tree," furnish indisputable evidence of the imprisonment of one tree within another for more than a century. When brought into the mill, the butt fir log was apparently normal. About 36 feet in length and 45 inches in diameter, the large end of the butt was too large to go through the edger, and it was sent to the trim saw for cutting. The trim sawyer noticed



THIS CROSS SECTION SHOWS HOW THE LARGER FIR HELD THE SMALLER ONE

weak specimen, which was literally swallowed up by the growth of a larger tree. Murder will out, and the old saying is borne out by this case. Perhaps the cannibal tree meant to hide its crime, says Mr. McArdle, but nature's methodical ways could not be escaped, and for this reason we can read back through the years and picture how the little tree was first choked to death and then swallowed up by its stronger neighbor.



THE SAME CROSS SECTION, AFTER DRYING, SHOWING THE SEPARATION OF THE TWO TREES

the unusual appearance of the growth and cut a slab off to keep. This was afterward photographed and is the picture shown on the right, after the wood had dried out and the natural shrinkage brought about the complete separation of the two trees.



A BIG BEAVER CAUGHT IN A TRAP DESIGNED NOT TO INJURE THE CAPTIVE.
Beavers became almost extinct under unrestricted killing, due to the great popularity of the fur, and long closed seasons alone saved it from extinction.

Bringing Back the Beaver

Practical Suggestions for Capturing the Animals Alive for Stocking New and Depleted Waters

By THEO. H. SCHEFFER
United States Biological Survey
(With Photographs by the Author)

"GIVE the beaver half a chance and he'll come back," said the old settler. "An' what's more, he'll come back strong."

The evidence was before us—water backed up at the head of a small draw by as neat a beaver dam as one would care to see and around the edges of the pond numerous aspen trees and stumps showing the tree-hole industry of the little fur bearers.

"When I took up this piece of land twenty years ago," continued the old settler, "there weren't no beavers 'round but about ten years ago, a feller came by here and said he used to trap beaver all 'long these creeks—done a good business, too. I'll say he did, cause he didn't leave a hairy pelt—cleaned 'em out slick. Well, that put a idea in my head. 'If beaver lived here once they'll live here agin,' I figgered. All I need is a couple

of live ones to start things going. Say, how long do you reckon it took me to ketch them two little rascals? Three years, yes, sir. I'm not tellin' where or how I ketched 'em but what I am tellin' you is that a feller's got to be mighty smart an' early-risin' to ketch Mr. and Mrs. Beaver alive. But I done it and now I callate I've got 50 to 100 of 'em in these waters and increasin' every year. Next winter I'll begin thinnin' 'em out and that means a nice little income."

What the old settler had accomplished is of course, not new but I cite it to illustrate in a homely way how the beaver—one of our most valuable fur-bearing animals, and all but exterminated in most regions—can be put on its feet again by the proper stocking of waters adapted to its existence. Protecting those which have been lucky enough to escape capture by State laws pro-



REMOVING THE CAPTIVE

The trap is brought ashore before opening, as it is easier to handle the animal on land. An experienced trapper has little difficulty in grasping the beaver by the hind leg and the tail and transferring it from the trap to the crate for shipment.

hibiting trapping for given periods is essential, but along with it must go the stocking of barren waters if our beavers are to be brought back to a point approaching their former economic importance. There is much yet to be learned about the propagation of beaver. In stocking new or depleted waters, live animals to begin with must be available. This calls for the capture of beavers alive and uninjured—an important and intensely interesting phase of the work that has been under investigation for several years. The suggestions given here are based on the results of first-hand experience, mainly in the Northwest, and are offered in the hope that they will serve to advance the conservation of one of the most interesting and at the same time most valuable fur bearers on the American Continent.

Traps and Pitfalls

In taking beavers alive and uninjured several methods have been followed, experimentally,

with varying degrees of success. It was first thought that the jaws of an ordinary steel trap of the proper size might be so wrapped or padded as to protect the animals from injury. However, a series of trials in this country and in Canada showed that by far the greater number of beavers thus trapped were maimed to the extent of being unfit for stocking or propagating purposes, if not drowned in their efforts to escape. The injury and losses attending this method of securing beavers may be greatly reduced if the trapper will stay with the work day and night and take care of the animal as soon as he discovers that one has been caught. The beaver will report its own capture if to each padded trap is attached a light wire connected with a cow bell swung from a branch or pole.

Capturing beavers by exploring and digging out their burrows has been undertaken from time to time along the smaller streams, but the results, as far as they have gone, do not warrant recommending the plan in general. Given certain favoring conditions, beavers may be taken in this



THE EMERGENCY NET

Sometimes all does not go well in transferring the animal from the trap to the sack or crate, and a strong wire net serves to bridge such emergencies.

way at the expense of considerable labor. Such conditions are a low stage of water, opportunity to drain the ponds nearly or quite to the level of the burrow entrances, and a successful locating of the real, occupied living quarters of the beavers, as distinguished from their many temporary retreats and shelters in the banks.

When working under these conditions it will be necessary for the beaver hunters to stay with the task until it is finished; for the animals when thus disturbed are likely to make a break for the water at any time, especially near evening. To escape a part of the drudgery of digging and the mischance of failing to locate the beavers in some side tunnel or pocket, it will usually pay, after a certain amount of excavating has been done, to wait quietly for this exodus and take the animals in hand nets.

Although we have been unsuccessful in all attempts to take beavers in enclosure traps made of woven wire and set in stream channels, it is possible that traps of this sort can be used to advantage for surrounding beaver lodges or the entrances to their burrows. It has been



READY FOR SHIPMENT

Properly handled in the field so they are not injured, and equipped for their journey, beavers may be shipped by express entirely across the continent. These four crates of beavers are starting from Walla Walla, Washington, to come east to the Pennsylvania State Game Commission.

demonstrated, on the other hand, that beavers may be captured in pitfalls dug in their paths on the stream's banks, or enticed into corral traps baited with their favorite foods. These methods involve considerable labor and time, however, and are not adapted to the frequent shifting of operations from one point to another.

The most satisfactory solution of the problem of taking beavers alive and uninjured has been found in the

use of specially designed traps. These traps are modeled somewhat on the lines of the regular double-spring steel trap, but are much larger, and the jaws instead of gripping the beaver by the leg, meet above the animal and enclose it in a purse of light chain-mesh or other netting of metallic construction. Credit is due the Canadian Parks Service for the original idea of such traps, in which a great many beavers are reported to have been taken with but very few cases of injury to any of the captured animals. The design of the trap has been modified somewhat for use in this country, chiefly with the idea of making it less bulky and cheaper of construction. Its efficiency in operation has warranted our Government in protecting the device by patents, to prevent its being



THE PURSE TYPE OF TRAP

Especially designed for taking beavers alive and uninjured, the jaws of this large, double-spring steel trap—instead of gripping the animal by the leg, meet above and enclose it in a purse of light chain-mesh or other metallic netting.

exploited for commercial purposes. This special trap has a basal framework of cross-bar grating about eighteen inches wide by thirty-six long. The heavier type of hail screen or "hardware cloth" may be substituted for a part of the grating, thus reducing the chances of the beaver injuring its nose by rooting between the cross-bars. At the two ends of the base, in the center, are hinged the rectangular jaws that serve to hold the netting. These are about thirty-five inches long by fifteen high and are actuated by No. 5 steel trap springs. The trigger arrangement is the same as in the ordinary steel trap, except that the mechanism is not placed midway between the hinges of the jaws, but nearer to one hinge than to the other. The meshes of the chain netting, if chain is used, may be two or three inches in rectangular dimensions. The complete trap, as described, will weigh about thirty-five pounds.

Trapping Season

A study of field conditions that favor trapping beavers alive leads to the conclusion that midsummer and early autumn constitute the best season for this work. At this time the streams are usually at their lowest, thus giving exceptionally good opportunity to note the signs of beaver activity and to place the traps to the best advantage. In handling the rather cumbersome purse traps, too, it is especially desirable to work the smaller streams and ponds in wading boots, without the use of a boat. Furthermore, lessened volume of water means clearer water and better vision into its shallow depths. While these conditions might obtain in midwinter also, it must be borne in mind that it is beavers alive and uninjured that we are after, not beaver pelts. As the traps must be set in shallow water, and several inches of the framework must be above the surface when the purse is closed, the imprisoned animals would scarcely survive the exposure overnight in winter. When streams and ponds are frozen over, too, the beavers could, of course, work only in the deeper water to which they have access from their burrows or lodges, and where the special traps could not be operated.

A further advantage in midsummer and early autumn trapping is afforded by the activities of the beavers themselves. At this season they live more out of doors, so to speak; wandering up and down the streams on various errands, chiefly in search of herbaceous and other succulent vegetation. Foraging trails leading from the streams, and slides where the animals return to the water, are then much in evidence. Wood cutting operations in the latter part of the season give the trapper another opportunity to take the beavers when they are working from water to land and back again.

Ability of the young beavers to endure the hardships of the necessary short confinement in captivity or to survive separation from their mothers, will determine to some extent how early in the summer one might begin trapping. These matters must be considered in

the light of local and seasonal conditions. We have found it difficult to handle the young beavers without loss, or to ship them any considerable distance with safety unless they can be given more careful attention than the adult animals require. It has been demonstrated, though, that the younger beavers can be very successfully raised on bottles if a supply of milk is available. They are quite docile and easily handled.

The best time to plant the colony in its new environment will, again, depend upon local and seasonal conditions. It goes without saying that the transplanted beavers should have ample time to construct shelters and to store food, if necessary, before the coming of winter. If they are moved rather late in the season they may be released near abandoned beaver workings, where they can the more quickly rebuild old shelters, or artificial houses may be provided for them. Whether the presence of strange beavers would be welcomed or even tolerated in an established colony is a matter on which we do not have full knowledge. Members of different colonies have sometimes been observed to live together very peaceably when kept in park enclosures, though in other cases a stranger has been attacked and killed.

Three types of set are especially recommended: the channel-set, the dam-set, and the slide-set. In the first named the trap is located in the channel of one of the smaller streams used by the beavers as a highway, or in one of the canals or waterways which the animals themselves have constructed. If need be, the navigable channel may be narrowed to the width of the trap by driving a barrier row of stakes across stream and flanking the setting. In this set, as well as in the others to be described, the trap must be so placed that when sprung the top of the jaws will stand a few inches above the water; otherwise the imprisoned beaver will drown. If set too deep in the water, also, the beaver will swim over the trap without springing it. If placed at too shallow depths, on the other hand, it is likely to be sprung by muskrats.

In the second type of set, the trap is placed in a small breach made by the trapper in the structure of the dam. Sensing trouble in the lowering water level, or in the unwonted sound of the new cataract, a beaver will very commonly search out this break at the first opportunity with the intent to repair it, and thus enter the danger zone. The trap in this set should be located in the upstream slope of the dam, with the spring the farther from the trigger in the deeper water.

By a slide-set is meant the placing of the trap at the edge of a stream or lake where a well-used foraging trail leaves the water, or where the beavers slide into the water again on their return. In the latter situation the water is often too deep for a successful setting.

The following general directions may be observed with profit in the use of the special beaver traps. Keep all hinged joints well oiled to facilitate quick action. Cover springs, framework, and netting with a good quality of

(Continued on page 58)

The Arctic

Mail

By

ALFRED M.

BAILEY



STOICAL DETERMINATION AND ABILITY TO "GET THROUGH" OFTEN DESPITE STORM AND DEADLY DIFFICULTY, MARKS THESE MAIL CARRIERS OF THE FROZEN NORTH

HERE is a romance about the carriers of the United States mail that grips one's imagination, and with reason enough the employees of the Post Office Service have long been considered an epitome of loyalty. Fast express trains speed overland, or whirring planes, guided from flashing beacon to beacon, dart through space to the great mail distributing points.

Yet most of us have taken the mail service for granted, rarely thinking of the intricate machinery involved. We are so used to receiving our letters regularly and promptly that we expect the postman within fifteen minutes of a certain time, and because our anticipations are almost invariably realized we scarcely wonder how it comes about. Few of us know that for twelve cents we can send a pound parcel from New York to northernmost Alaska, and that it will take three months of continuous travel for it to arrive there. What a story there is in the carrying of that one package, a journey by train, boat and dog sled—and a continuous battle against the elements by the carrier of Uncle Sam's mail. Let us turn to the last part of the trip—the Arctic mail route.

Three hundred miles north of the Arctic Circle in Alaska is Barrow, the northernmost city in North

America, an isolated little Eskimo village where winter is king for ten months of the year. The ice-pack grinds against the gravel beaches and extends to an indefinite horizon far out across the unexplored Arctic, toward that unknown continent which is said to lie under the Polar Star. The "nigik," north wind of the Eskimo, blows off the ice, and during the

cold, calm nights of mid-winter, the aurora flares and fades away, colored ribbons of light dropping from the dark, star-pierced void overhead.

Jim Allen, a trader of the Arctic coast, and I, were at Barrow the first of November when the diminutive Eskimo mushed his mail team to the post office to start his long trip down the treeless coast to Kotzebue, six hundred and fifty miles away. He had been developing his team all summer and preparing his outfit for the winter work, for according to his agreement he must make three round trips to Kotzebue in the next six months,—a mere matter of about 4,000 miles over a trackless Arctic waste. Jim and I had traveled overland from Wainwright, a native village one hundred miles down the coast, and had found the sledding hard indeed. The ocean had not yet frozen, the broad lagoons were unsafe, the snow upon the tundra was deep and soft, and finally,



Harry Blumfield

ROUGH ICE, TYPICAL OF THE PATH SO OFTEN FOLLOWED BY THE CARRIER OF THE ARCTIC MAIL

the early winter gales had thrown an impassible barrier of gigantic ice cakes upon the beach. Added to these unfavorable conditions, Jim and I were unfamiliar with the country, and when skirting the high tundra shore, often found ourselves far inland, where we had followed the bank of an Arctic valley, too wide to permit our seeing the distant ridge. So we were awaiting Ned's departure with the outgoing mail that we might have a trail to follow down the coast,—a wise custom and usually followed, since the carrier must travel on schedule, and is familiar with the short cuts.

This Arctic mail is carried by dog sled along the coast three times each winter, and a letter posted in New York will reach Barrow in ninety days, if it makes absolutely through connections, and possibly six months, if it does not. It is carried from Seattle by steamer to Seward, the terminus of the Government railroad, and then over the rail to Nenana or Fairbanks; then by dog sled down the Yukon river hundreds of miles to Unalaklit, and from there, ten days more by dog sled to Kotzebue, the distributing point for Arctic Alaska.

But it is the last leg of six hundred and fifty miles which is probably the most difficult scheduled mail route in the world. Here the carriers are constantly gambling their lives, and yet the Eskimos are so well able to care for themselves that no accidents have ever happened to either the native or his mail. He is supposed to carry two hundred pounds of mail, for which he receives three hundred and fifty dollars, but there is a special allowance of excess mail for which the driver receives one dollar a pound. The route lies along a coast uninhabited, except for an occasional Eskimo igloo, which the carrier tries to reach

for shelter from the constantly menacing storms. Dog food is a serious problem, yet the mails must go through on time.

So we followed the custom of allowing Ned the privilege of breaking trail, and planned to leave Barrow for Wainwright the day after his departure. A two days' blow, however, kept us under shelter so that all sled tracks were obliterated by the time we were under way. We found the going bad, although our team was considered the best on the coast, for Allen had chosen dogs for speed and endurance.

With our eleven strong huskies, and a light load, we yet hoped to catch Ned before he left Wainwright, in order to

send some registered letters which had been delayed. The first two days were desperately hard, and we made scarcely fifty miles, but the last day we found the ice formed over Peard Bay, and better still, the mail trail was faintly marked, so we could cross swiftly without testing the ice for safety. We reached Atanik in mid-afternoon, and had *kow-kow* with some of the sturdy hunters, then mushed on until long after darkness. Finally the smell of the village reached us, the dogs darted ahead with renewed vigor, and we were soon at home,—finding that Ned was preparing for an early start the next day.

I wintered at Wainwright with two white companions, and during the cold, dark days, our main topic of conversation was, "I wonder when Ned will get back?" The sun was absent for over two months, having dropped below the horizon November the twentieth, not to appear again until January twenty-sixth; the twilight of



Harry Blumfield

THE MAIL TEAM STOPS AT THE TRADING POST AT WAINWRIGHT, IN ARCTIC ALASKA

noontime was too short to make hunting a pleasure, so there was little in the way of outdoor pastime, except an occasional dog or reindeer race. Ned was supposed to start North from Kotzebue December first, and we expected him to arrive at Wainwright three weeks later, for it is the custom of the drivers to push on to Barrow in time for Christmas. And what a happy Christmas six months mail from home would make! But we were doomed to disappointment. The days dragged by,—storm followed storm, and often it drifted so hard that we could not see our own feet for the swirling snow. We took long walks and sometimes hitched the dogs, running miles down the coast to meet the mail. Christmas came, and then the end of the month, and we became worried for the carrier's safety. At length we outfitted a couple Eskimos with plenty of food and started them to meet, or rescue the mail. Many of the natives were of the opinion that Ned had been carried away on the ice when rounding Cape Lisborne, others thought he had been drifted over in a storm, while the majority insisted, "Ned, he alright,—he savvy."

And then came New Year's Eve. It was an intensely dark night with stars gleaming coldly, and just a suggestion of an aurora playing out over the creaking pack. We were playing whist with the Eskimos when one rushed in to say he saw a light flickering



Harry Blumfeld

HUSKIES IN THE MAKING—THESE FINE PUPS WILL BE TRAINED FOR
UNCLE SAM'S SERVICE

on the tundra,—and then a few minutes later came straggling in a team of tired huskies, with our mail carrier. His story was simply told,—

"Damn blow, blow, blow,—four dogs *mukki*, dead, freezum,—no feed." And indeed, the team was in a sorry condition for Ned had been storm-bound five days at one time, four of his dogs had frozen to death, and the rest were nearly starved. It is a wonder he came in at all.

The next mail left Wainwright January tenth, and we expected it back on schedule in February, for we had confidence in Ned, if conditions were favorable. But when February "blew" around with its continual storms, we gave up hope for an early mail. On Washington's birthday, a strong north wind with a blinding snow shrieked over the drifts, driving with such force as to penetrate two storm windows which had been carefully calked with cotton. We were just discussing the mail when a native girl stuck her head in the door announcing, "Ned, he come."

We pulled on our *parkas* and rushed out, just as the lead dog came in sight, then two more, then five, and at length we could see the sled in the whirling snow. That evening I asked Ned "how come" he travelled in such weather. His story was the one usual to the Arctic,—brief, but very expressive. He "had to." It seems he had passed Icy Cape in a storm the day before, and slept on his sled on a wind blown spit all night, and then had to go through to Wainwright for shelter, and more important,—that biggest prob-

(Continued on page 46)



Harry Blumfeld

THE TEAM RESTS AFTER THE DAY'S WORK AT AN ES-
KIMO HOME ON THE ARCTIC COAST,—THE IGLOO IS
BURIED UNDER THE SNOW

Joint Annual Meeting to be in New Haven



The American Forestry Association to Hold Joint

Session with Connecticut Forestry Association. Prominent

Speakers and Timely Program Assure an Interesting Meeting



Each year the annual meeting of the American Forestry Association has been the occasion of a representative and enthusiastic gathering of its members and of prominent foresters and conservationists from all parts of the country. The 1927 meeting is to be held on January 28-29, in joint session with the Connecticut Association at the New Haven Lawn Club, New Haven, Connecticut. It will probably see a larger gathering than ever before since to the attending membership of the national association will be added the members of the Connecticut Forestry Association. An additional feature of interest lies in the fact that the meeting is to be held in New Haven, the home of the Yale Forest School where several tours of inspection and side trips will be made possible to familiarize visiting members with the work of that institution. This year the officials plan on discussions of broad, popular interest rather than technical discussions of interest only to the profession. That this effort has been successful a glance at the program shows.

Friday Morning 10:00 A. M.

Col. Henry S. Graves, President, Connecticut Forestry Association, presiding.
His Honor John B. Tower, Mayor of New Haven: Address of Welcome.
His Excellency John H. Trumbull, Governor of Connecticut: Address of Welcome.

Forestry and the Public

"American Forestry Today": Hon. George D. Pratt, President of the American Forestry Association.
"Public Aspects of State Forestry": F. W. Luening, Editor, Milwaukee Journal.
"What Forestry Means to the Rural South": Martha Berry, Founder, The Berry Schools, Georgia.

Friday Afternoon 2:00 P. M.

Hon. George D. Pratt, President American Forestry Association, presiding.
"Where Will the Lumberman Get His Future Supplies?" Robert B. Goodman, former Chairman of the Committee on Economics, National Lumber Manufacturers Association.

Forestry and Industry

"Chemical Trends and Possibilities in Wood Utilization." Carlile P. Winslow, Director, United States Forest Products Laboratory, Madison, Wisconsin.
"Forestry and the Railroads": N. M. Rice, Vice-President, N. Y., N. H., & H. R. R. Co.
"Making Wood Last Longer": Stuart B. Shipley, President, Century Wood Preserving Company.

4:45 P. M.

All of great interest which members and guests may take advantage of at this hour.
(1) Official trips to building and collections of Yale School of Forestry at Sage Hall, Prospect St., Prof. G. A. Garratt, Yale School of Forestry, in charge.
(2) Official trip to collections of Peabody Museum

Inspection Trips

of Natural History, Whitney Ave., Miss Eleanore Parmelee, Docent of Museum, in charge.
(3) Official trip to New Haven Progress Exhibit, Winchester Ave., John Ferguson, Secretary, New Haven Chamber of Commerce, in charge.

Friday Evening 7:00 P. M.

Hon. William A. L. Bazeley, Conservation Commissioner of Massachusetts, toastmaster.
"Forestry Down the Ages": President Emeritus Arthur Twining Hadley, Yale University.
"Forestry and the Engineer": Prof. Charles Horton

Banquet—A Bit of Forest Recreation

Cooley, Dean, Engineering Department, University of Michigan.
"Who Should Own Our Forest Lands?": Edward A. Sherman, Associate Forester, United States Forest Service.

Saturday Morning 10:00 A. M.

Joint session with Connecticut Forest Fire Wardens Association.
"Potable Water Supplies of Southern New England as Influenced by Forest Conditions": Prof. Roscoe S. Suttie, Connecticut Geological Survey.
"Forestry in Relation to the Industrial Development of New England": John S. Lawrence, President, New England Council.

New England Forestry

"Some Neglected New England Values": Albert M. Turner, Chief Engineer, Connecticut State Park and Forest Commission.
"The Weather Man as a Forest Fire Fighter": C. F. Marvin, Chief United States Weather Bureau.
"The New England Pulp Industry and its Dependence Upon the Forest": Forrest H. Colby, Former Forest Commissioner of Maine.

Saturday Afternoon, 1:45 P. M.

Business Sessions

2:15 P. M.

Charles Lathrop Pack, President of the American Tree Association, presiding.
Joint Session with Connecticut Botanical Society.
"A Rational Wild Plant Conservation Program": Albert F. Hill, Instructor in Botany, Yale University.

Forest and Wild Life

"Preserving Wilderness Conditions": Charles C. Adams, Director, New York State Museum, Albany, N. Y.
"Romance of the Grass Lands": Will C. Barnes, Assistant Forester, United States Forest Service.

Sunday Morning 10:00 A. M.

For the benefit of those wishing to remain over Sunday in New Haven, a field excursion to the forestry operations of the New Haven Water Company, at Maltby

Field Excursion

Park near New Haven, will be conducted by Prof. R. C. Hawley, of the Yale School of Forestry. Announcements concerning this will be made at the meeting.

General Information

The New Haven Lawn Club, where all main meetings will be held, is situated at 193 Whitney Ave., only one block from Sage Hall, Yale School of Forestry building, at 205 Prospect St. Take Whitney Ave. car from railway station or the New Haven Green. The Club dining rooms will be open to all attending the convention.

Hotels: Special rates at Taft (corner Chapel and College Sts., opposite the Green) and Garde (opposite railway station).

Taft: Single room with bath—occupied by one person—\$4.75 per day, including breakfast. Double room with bath—\$4.00 per day per person.
Garde: Per person—\$2.00 in room with running water. Per person—\$2.50 in room with bath.

(Make reservations direct to hotels, mentioning American Forestry Assn.)

Banquet: Tickets \$2.00. Make reservations through Connecticut Forestry Association, 205 Prospect St., New Haven, Connecticut.

On Thursday afternoon and evening, before the American Forestry Association meeting, the New England Section of the Society of American Foresters will meet at Sage Hall, the home of the Yale School of Forestry. The program of this meeting will consist of technical discussions of forestry subjects.



A Wind-Break de Luxe

By J. A. COPE

“WHAT a place to picnic! Not a ray of August’s noonday sun can penetrate those interwoven crowns. And look at this carpet of needles as velvety to the tread as the best Wilton.”

All this with enthusiasm as we waited impatiently for the owner to come from the adjoining woodlot to tell us about this beautiful bit of hand-planted spruce forest, that was the mecca of our trip through the rolling hills of central New York.

We had long heard of the venerable Mr. Barrows and his spruce grove but it certainly gave promise far better than report. And soon he appeared, ax on shoulder—rather small of stature but remarkably active for his 85 years—and with those clear eyes and tanned cheeks that mark the vigorous out-door man the world over.

“Been out cutting some dead maple for fuel wood this winter,” he explained. “Best exercise I know for keeping a man in shape.”

“But tell us about this forest, Mr. Barrows. How did you ever happen to get started setting out trees this way,—why those spruce look as though they must be at least 40 years old.”

“Yes, I set the first trees out in 1878. The Northwest winds from Lake Cayuga used to sweep through here in winter sometimes, until the house was uncomfortable five feet from the stove. So I



THIS FRONT VIEW OF THE HOUSE SHOWS HOW THE TREES OF THE WIND-BREAK MARCH RIGHT PAST THE BARN TO THE HOUSE



A VIEW INSIDE THE WIND-BREAK PLANTATION. THE SNOW ON THE GROUND BRINGS OUT IN DETAIL THE DENSITY OF THE STAND

thought I would try setting out a few trees—had read somewhere that spruce made a good wind-break.

"You know back in those days there wasn't anybody growing spruce trees in these parts—leastways not small ones that a body could afford to buy. Finally, one day looking through a magazine I saw where a firm out in Antrim County, Michigan, advertised little Norway Spruce trees at \$10 a thousand, so I sent and got a couple of hundred."

"But, how did you come to plant so many trees? Usually you know two or three rows is considered enough for wind-break purposes, and you must have a couple of acres in this grove."

Mr. Barrows smiled reminiscently.

"Well, the neighbors did kind of laugh at me, but I had plenty of land and those first trees did so well and looked so thrifty in the straight rows, that I just kept adding to them each year until I had about 2,000 set out at the end of 10 years."

Then followed a personally conducted tour through what has been described by an authority who has seen both, as a bit of the *Schwarzwald* set down here in the Empire State. Mr. Barrows almost knew all the trees by

name, as he strode from row to row pointing out individual peculiarities. Here was the prize tree 11 inches in diameter, which had early killed out its close neighbors. And here was one that a stray hog had rubbed against too energetically and all but broken off twenty years ago, but now it had healed over and was apparently as good as ever. Not a dead tree was to be seen—not even a dead branch on the ground. No orchardist could have given more painstaking care to his apple trees.

"And about the wind, Mr. Barrows, do you notice any difference?"

We were standing outside now looking up at that 70-foot solid green wall towering far above the house.

"Well sir, you fellows may not believe it, but I haven't heard a window rattle in this house for the last 20 years, and you know it's twice as old as the trees."

And the best part of it is Mr. Barrows has lived to see his vision realized—has lived to see the children of those neighbors who laughed at him, clamoring for the privilege of frolicking and picnicking in the grove.

The forester cannot fail to record that this 45-year-old plantation contains 30,000 board feet of lumber to the acre but that after all is merely for records. If it were 50,000 it should not be harvested but grow on through the decades. A living monument to the truth of Emerson's dictum:

"If a man can write a better book, preach a better sermon, or build a better mouse trap, than his neighbor, though he build his house in the woods, the world will make a beaten track to his door."



A CHAT WITH THE OWNER—MR. BARROWS TELLS THE STORY OF THE WIND-BREAK DE LUXE

Ninth National Park Conference

An interesting gathering of National Park officials took place in Washington, D. C., when the Ninth National Park Conference was held in November. Superintendents from all the major National Parks attended, as well as the general field engineering, landscape, and educational officers. Originally planned for

time. Considerable time was also given to the discussion of general Service problems, and each field officer was given an opportunity to bring up his own particular problems before the conference for general discussion. With the close contact thus established between the field representatives of the Service and the Washington headquar-



Photographed by Harris and Ewing

SUPERINTENDENTS OF THE NATIONAL PARKS

The superintendents of Uncle Sam's National Parks called on President Coolidge at the White House, when they met recently in Washington. They were presented to the President by the Secretary of the Interior, Hubert Work, and the Chief of the National Parks, Stephen T. Mather, who are shown in center of photograph.

Mount Rainier National Park, it was decided to change the meeting place to Washington to give the field officers an opportunity to get in touch with the headquarters personnel of the National Park Service and of the various bureaus cooperating or in contact with the National Parks.

The greater part of the conference sessions was devoted to handling personnel, fiscal, and engineering problems. Officers of the Civil Service Commission, the Bureau of the Budget, the Office of the Comptroller General, the Bureau of Public Roads, and the Public Health Service, as well as Personnel and classification officers of the Department of the Interior, at the request of Director Mather of the National Park Service addressed the conference, explaining in detail the procedure to be followed in the field in order to get the most satisfactory results with a minimum of correspondence or lost

ters, as well as with officials of cooperating bureaus whose work touched on various phases of park administration and protection, the work of the Service will be much simplified in the future.

Especially interesting were the sessions of the conference held Friday, November 19, and the following morning. At the invitation of Chairman Louis C. Cramton of the subcommittee of the House Appropriations Committee handling Interior Department appropriations, these sessions were held in the anteroom of Mr. Cramton's private office in the Capitol while hearings on park appropriations were carried on in the inner room. Thus the park superintendents were available when needed to present their own justifications of park estimates and were given an opportunity to see at first hand the methods of the Appropriations Committee in handling estimates. During the conference sessions at the Capitol

special attention was given to traffic problems in the National Parks and to the revision and enforcement of the park rules and regulations.

The importance of landscape work in the parks was stressed in connection with the discussion of road construction and talks on the subject given by the chief landscape engineer and his assistant. Under the laws creating the National Parks no developments are permitted except such as are necessary to the comfort of visitors, and even these necessities are planned so as to fit into the landscape as harmoniously and inconspicuously as possible.

Several phases of educational work in the National Parks were discussed, and special emphasis given to two of the newer developments along this line,—nature trail building and pageantry.

Following the close of the conference the visiting field representatives of the National Park Service, accompanied by Director Mather, inspected the famous Palisades Interstate Park, which offers to New York's crowded metropolis such exceptional opportunities in the way of outdoor recreation, and the party stopped at Philadelphia for a brief study of the Government's exhibits at the Sesquicentennial Exposition.

A Plea for the Blue Spruce

By THOMAS A. MCBETH



PHOTOGRAPHIC EVIDENCE OFFERED BY THE AUTHOR TO SUPPORT HIS CLAIM THAT *PICEA PUNGENS*, OR THE MORE FAMILIARLY KNOWN COLORADO BLUE SPRUCE, GROWS TO FINE SIZE AND GREAT BEAUTY IN THE WILDS. THOUGH THE CENTER INSERT IS A PARK SPECIMEN, THE OTHER TWO ARE OF BLUE SPRUCE TAKEN IN BOULDER CANYON, COLORADO, AT AN ALTITUDE OF ABOUT 7,000 TO 8,000 FEET

IN the Bulletin of the Arnold Arboretum of December 18, 1925, occur some statements in regard to the Colorado Spruce (*Picea pungens*) which are misleading.

"True," the writer says, "the Colorado Blue Spruce is one of the most popular conifers in the United States," but when he adds, "in spite of the fact that it early loses its value as an ornamental tree," I think in this last statement he is entirely wrong. I can show any number of trees of the blue variety commonly called "Koster's Spruce," all the way from six to thirty or forty feet high, fine, shapely, well formed, beautiful trees from the ground up, all over the United States, planted and growing naturally, from the Rocky Mountains to the Atlantic Ocean, north of latitude thirty-seven.

The Bulletin adds—"This is not surprising, for *Picea*

pungens growing in small groves near streams in the valleys of the Rocky Mountains long before it attains its full size is a thin, scraggy, miserable looking tree, with a few short branches at the top of the stem."

This may be in a measure true where it is found in dense groves (which sometimes happens). That, however, is the case with many other trees when they are crowded. It is surely not the case where they have any chance to develop. I visited the Rockies last Summer and took several photos of individual trees in nature. Lack of space forbids showing more than two, but I could have taken thousands equally as good. The trees shown are from 40 to 60 feet high, altitude 7,000-8,000 feet.

Owing to its popularity the tree has been overworked. But where it has its proper setting it is one of our most beautiful and useful trees.



EDITORIAL

Ownership—and Responsibility

IT is always a fair criterion of the value of property—whether it be an apple or an oil well—to know how badly the other fellow wants it. And every year or so the discovery is made that the National Forests are valuable, revenue-producing public properties. Each time, whether it be for water power, grazing lands or timber wealth, a few energetic individuals with an eye ever focused on the main chance have discovered a number of more or less plausible reasons why these properties should be taken out of Federal control.

Just now, out in the northwest, certain discussion has arisen, touching on the wisdom of transferring the National Forests of Oregon to the State. No question is raised here as to the sincerity of the proponents of this transfer in believing that Oregon would profit by it—but for their amazing proposal they fail to make a very convincing case. Under title of “The States Can Do Better,” a Portland paper naively points out that although these National Forest properties may have been white elephants in days gone by, they would today make very tidy little additions to the wealth of Oregon.

“Several years at least after setting aside of the National Forests were occupied in organization and during several more years production of logs was obstructed by the extreme conservation policy,” says this editorial. “National Forests were then remote from transportation and after cutting of timber began the demand did not justify extension of logging so far from milling centers. Demand now is increasing and is steady. Railroads are pushing into the forest, terms of cutting have been reduced to a rational business basis and as a going concern the National Forests should more than pay costs of ad-

ministration, plus a revenue awarded by Congress to the states.”

Then follows a rather remarkable statement. “Oregon fully understands the wisdom of protecting forests against fire and insect pests, of cutting only mature trees and of protecting young growth, of reforestation, either naturally or by planting and timber men lead the public opinion of the State on the subject.” It is hard to say just why this constitutes a valid reason for removing these timber tracts from Federal administration under which they have been brought to produce not only revenue for the United States Treasury but yearly appropriations for the roads and schools of Oregon.

No one, to be sure, is alarmed over the possibility of any general movement toward handing the Federal forests to the states. This cry from Oregon, however, has its significant side and that side touches the fact that in the present system of fire protective cooperation between state, federal and private owners of forest land it has not yet been possible for the Forest Service to hold up its end. Fire protection is vital and until the national government will discharge its own responsibilities and provide funds with which the Forest Service may stand squarely with the states and with the private cooperator in fighting the red enemy, there will always remain a valid basis for unfavorable comparisons.

Ownership involves definite responsibilities and the greatest of these responsibilities is protection. The people of the country could make no better expenditure than to provide Uncle Sam with the funds to discharge this obligation. Viewed from no other angle than that of sound economics, it would be money well invested.

The Real Issue of Bechler Basin

THE proposal to eliminate some twelve square miles from Yellowstone National Park to permit the commercial development of the Bechler River Meadows as an irrigation reservoir raises a question of public policy which strikes directly at the integrity of the whole National Park system. It is a question which, with the increasing demand for economic development, will raise its head with increasing frequency in years to come.

Stripped of its local arguments, the Bechler Basin controversy raises the larger question—“When, if ever, shall the preservation principle as typified for half a century by the National Parks give way to the demands of economic need?”

So far as the Bechler River Meadows are concerned, they embrace a very small area in the southwest corner of Yellowstone National Park, Wyoming. The people

of southern Idaho are asking that they be eliminated from the Park and returned to the Public Domain to permit their conversion into a supplemental storage reservoir for Idaho farm lands. These lands are already irrigated and produce large crops, mainly, beets, but it is claimed that every six or seven years, the region is visited by a prolonged drought, during which the present water supply is inadequate and large crop losses result. The Bechler River Meadows, or Basin, as they are more commonly called, the Idaho people assert, supply the only satisfactory site for a supplemental reservoir, and they demand its segregation from the Park on economic grounds. They point out that because of its inaccessibility, it is little visited by Park visitors and they discount its scenic worth as National Park property.

Opponents of the proposal hold that the area is part and parcel of Yellowstone National Park, which must be kept inviolate from commercial dismemberment. Bechler Basin, they point out, embraces high mountain meadows of great beauty and impressiveness—a region that should be kept primitive as a wilderness park area for the preservation of outstanding scenic features. They claim there are other reservoir sites available outside the Park boundaries and that there is no valid excuse for permitting this “raid” upon Yellowstone.

There are two directly opposing positions, one holding in effect that the National Parks must be broken into to meet local economic needs as they arise; the other that the integrity of the National Parks must be preserved as a social and spiritual principle of national development. The issue is vital, for it must be apparent that once Congress sets the precedent of parcelling out the National Parks upon the economic-necessity plea of local communities, the doom of the parks is sounded. It is this danger that constantly hangs over the National Parks because the only agency available for the settlement of the question is the political arena of Congress.

There have been other Bechler Basins in the past; there will be more and more of them in the future as development squeezes in upon the National Parks. It is conceivable and even likely that contingencies will arise which may warrant the adjustment of National Park boundaries and the elimination of small areas on purely economic grounds, but every such proposal should be thoroughly investigated and passed upon by a tribunal or commission, specially created for the purpose, free of political pressure and composed of an expert personnel. Until some such machinery is provided for the adjudication of these cases, “Bechler Basins” are potential dynamite to the National Parks.

Are We Too Busy to Make the Effort?

SO FAR the American people have shown only mild concern at the enormous losses caused each year by forest fires. When the weather is favorable fires occur in all localities offering enough growth material to feed flames, in spite of the volume of publicity pointing out the property loss caused and the need of united action to prevent them. Is it that the American people are too indifferent to property values to become actively concerned and stop these fires? It is quite noticeable that where animal life and human beings are destroyed much greater space is given to the occurrence by those catering to the general interest of our communities.

The American public is more concerned over the loss of animate life than the loss of inanimate life. There are those who see red at the thought of the suffering of animals or birds. There are the hunter and the fisherman, selfish if you will, desiring to see the wild life protected for its values of more than game. Most of these people know only in a general way, that forest fires cause suffering and loss among the wild creatures while to mention fish loss from forest fires usually brings forth a tolerant look of scepticism or a derisive laugh.

There is a marked lack of current information available about the effect of forest fires on our valuable wildlife and it would appear that those having the big responsibility of leading public thought and preventing forest loss are overlooking an effective vehicle for creating public appeal that will result in needed action. Some foresters, while admitting that wild life is a

product of the forest, have said they do not consider it part of the forest rangers' duties to make the effort to ascertain the damage done to wild life when surveying burned areas to fix the extent of the timber damage. Others have said they can not burden the rangers with this extra work, which leaves the impression that there is no benefit to be derived from the activity to justify making a place for it by pushing out others of less weight or asking that assistance from interested sources be given to make it possible. It is human nature to feel that we are doing all that can be done under the circumstances, and yet there are always ways of doing just a bit more.

Though vast fires have swept over portions of our lands again and again, there is little data to show the loss in wild life. Furthermore, the records on the disastrous fires of 1910 in the Northwest contain practically nothing regarding their effect on wild life. Now that fires have again burnt out large areas in that territory, will those responsible for fire prevention make the effort to record all instances of damage to wild animals while memory is fresh, and ask the assistance of those interested in wild life protection, in studying the burned areas, to ascertain the extent of the damage? Every bit of information so collected can be used for the direct benefit of the forests in arousing greater public interest in forest fire prevention. And this in turn will ease the body-killing burdens of those who must stop the fires when they break out.

Interesting Trees of Haiti

By A. T. SWEET



VISITING the West Indies for the first time the newness of the vegetation thrust itself upon me. New trees, new shrubs, new vines and flowers are everywhere.

I looked in vain for a familiar oak, elm, hickory, maple or other forest tree of the Temperate Zone. They are not to be found. Nor did we find clovers or bluegrass. This is the Tropics. Cultivated plants and a few weeds are our only acquaintances.

First these plant strangers impress us with their beauty of form, flowers and foliage. Then we note the dominance of palms and palmetto. Next we discover the abundance of legumes. Trees with fern-like feathery foliage and bean-like seed pods everywhere.

Instinctively we know the royal palm. No other tree nor plant so well deserves that name. The coconut palm we recognize from pictures we have seen and by its clusters of nuts. The mango with its roundish head and dense foliage is soon learned. The bread fruit with its large, shining, deeply serrated leaves once seen can not be forgotten.

The native Haitian lives close to nature. He knows his trees and plants. Many are the abode of evil spirits. In others good spirits dwell. Many have medicinal properties. These he uses. Some are good for man, others for his donkey, his pigs or his fighting cock. Some are very poisonous and by means of these he occasionally disposes of people he does not like.

In no other way perhaps can one so quickly gain his respect and good will as by an interest in and knowledge of his plants. He has a name for every one and will repeat it over and over for you until you have learned it. Even the boys know the names of most common trees. They delight in telling them to the white man, once they know what is wanted, and I rarely found them mistaken.

Haiti is very mountainous with high chains rising out of the ocean and trending east and west. Between the chains are narrow low plains and valleys. It also lies in the path of the moist trade winds. Near sea level the temperature is high, rising day after day to about 102 to 103 during the day in winter and warmer in summer. On the slopes it decreases with elevation.

The moisture bearing winds striking the mountains rise abruptly producing heavy precipitation on one slope and nearly complete aridity on the other. Moist air currents passing through low gaps result in portions of



TRULY NAMED, THE ROYAL PALM

Regally it rises in this lovely Tropic land, carrying its head proudly a'top its tall and stately stem of grayish-green, waving its beautiful fronds in response to the call of the moist trade winds.

the plains being well watered. In other portions where they are cut off are deserts.

So throughout the Island are these sharp contrasts, tropical or semi-tropical vegetation here, desert there. In many places the contrasts are so sharp that one can stand among bananas and palms and look out over a desert of cacti and scrubby bayahonde. One can drive in a half hour from more semi-tropical and humid vegetation than can be found in southern Florida to the most extreme desert type of Arizona. While making a soil survey of

the Lower Artibonite Valley for the Service Technique of the Haitian Government I had an opportunity to study at close range this interesting vegetation and some of the factors influencing its distribution.

Records of annual rainfall in the valley were not obtainable. In the upper



MAPOU ALONG THE LEVEE ROAD IN
ARTIBONITE VALLEY

One of the most interesting and striking trees of the region is the mapou (*Celba pentandra*), with its tall, erect trunk and large, wide-spreading branches. By the native it is held in awe as the abode of Zombe, the devil. For this reason he seldom cuts or mars it in any way.



"HAITIAN OAK"

The *bois chene* (*Catalpa longissima*) gets its popular name because of its gray, slightly ridged bark and general resemblance to our white oak. The trees are tall and straight, usually sixty to eighty feet high.

part it is known to be considerable, probably around fifty inches. Lower down it is believed to be fifteen to twenty, an amount which in eastern Colorado permits of dry farming. In Haiti, on account of high temperature and rapid evaporation, it produces a desert only.

In Haiti as elsewhere rainfall and moisture is an important factor in determining plant distribution, but it is not the only factor. In places it is not even the dominant factor. This dominant factor may be soil conditions, its ability to take up and conserve moisture and to release it again when



THE WIDE-SPREADING MANGO

One of the most valuable of Haiti's trees because it supplies both luscious fruit and abundant shade. The mango (*Mangifera indica*) is an almost indispensable food tree of the islands, its fruit ripening from April until the middle of November.

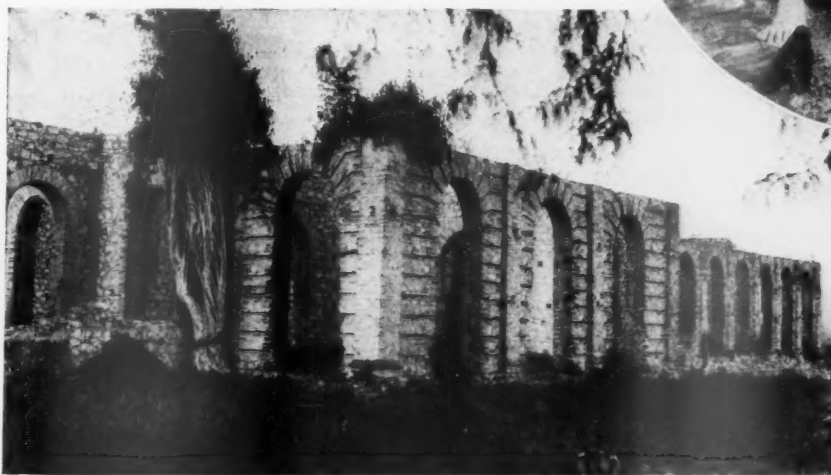


ROADSIDE TREES OF HAITI

This old French road in Haiti near Dessellaines in the upper part of the Artibonite Valley is lined with the graceful Royal Palm (*Roystonea regia*). Steep, arid mountains are seen in the distance, bordering the valley on the northeast.

needed, or it may be the presence of alkali in varying amounts.

The most stately and graceful plant of the West Indies is the royal palm (*Roystonea regia*). With its smooth, grayish-green trunk, it rises to heights of sixty to eighty feet, erect and crowned with immense fronds which respond gracefully to every breeze. The trunk is of the same diameter at top and bottom but swells slightly midway, is girdled by faint greenish lines the upper six or eight feet being a bright green. This portion is boiled and eaten like other green vegetables. It bears large clusters of small yellow seed rich in oil but utilized to only a small extent. In some regions the bark



THE PICTURESQUE AND WEIRD WILD FIG

Like the Mapou, the Wild Fig (*Ficus nutrophora*) is also considered by the natives the abode of evil spirits. It is usually found clambering over old walls and ruins, or twining itself around the trunk of a tree which in time it strangles with its parasitic roots.

is removed in strips several inches wide and used for siding on the native houses.

These splendid palms are to be found wherever there is an abundance of moisture, retentive soil and freedom from alkali. They are scattered through the fields, along the highways and high in the mountain

THE CAMPECHE

Of tall, erect habit of growth, the Campeche (*Haematoxylon campechianum*) or blood tree is very striking looking. The deeply ridged dark gray bark is striped with bands of lighter color, girdling the trunk and branches. The bees love the fragrant blossoms of this tree and its wood is important commercially for use in the manufacture of dyes.

valleys. The poorest peasant may live in his mud daubed *caille* built at the cost of less than twenty dollars or a few days labor but it often has a setting of these palms which would be almost priceless in some other parts of the world.

Excepting the royal palm the most interesting and striking tree of the Artibonite Valley is the mapou (*Ceiba pentandra*). With its tall, erect trunk and large wide spreading branches it lifts its head above the surrounding vegetation. On the smooth light gray bark of the trunk are patches thickly studded with heavy, sharp spines. In other places are great eye-like scars. The roots sprawl along the surface of the ground like writhing snakes. By the natives it is held in awe as the abode of Zombe, the Devil. For this reason he rarely cuts or mars it in any way.

The mapou grows singly or in groups of three or four, preferring the higher better drained soils near the stream channels but it is also able to withstand moist conditions. The leaves are small, the foliage scant and the greenish-red flowers, which appear in March, are not conspicuous. Bromeliads cover the branches and cling to the trunk.

One of the most interesting and weird plants of this region is the wild fig (*Ficus nutrephora*) and other varieties. This plant may grow as a vine and is usually found clambering over old walls and ruins. It may twine itself around the trunk of a tree which in time it strangles with its parasitic roots. If, however, it has no support it develops a trunk of its own with wide-spreading branches and roots extending for long distances along the surface of the ground. It is not surprising that this like the mapou is also considered by the natives the abode of evil spirits. It requires good soil and abundant moisture supply.

The Campeche (*Haematoxylon campechianum*) or blood tree is erect and tall ranging from a few to fifteen inches in diameter. The trunk is ridged as though several small trees had grown together, and many have trunks slightly twisted. The bark is dark gray striped

with bands of lighter color. These girdle the trunk and branches. The thick growing head of short twigs and branches bears a dense foliage. It blooms from December until April bearing an abundance of fragrant yellowish catkins from which bees make excellent honey.

The campeche seems to prefer low, damp, heavy soil where it makes a dense growth. Here its thick shade chokes out all undergrowth. It grows, however, on the valley slopes, along fences and roadways or wherever it can get a foothold. This tree like many others is not indigenous to the Island but was introduced long ago, probably by the French, and has spread to all parts where soils and moisture supply are sufficient.

The wood of the campeche is used in the manufacture of dyes and is one of the important exports. From the Artibonite Valley it is floated down the river on rafts of palm trunks, the wood being too heavy to float alone. It is also carried to St. Marc on pack animals

or hauled on clumsy two wheeled bull carts. It is sold by the pound and weighed on crude homemade balances.

The *boischene* (*Catalpa longissima*) or "Haitian oak," as it is called, has ash gray bark slightly ridged, resembling somewhat that of the white oak. The trees are usually tall and

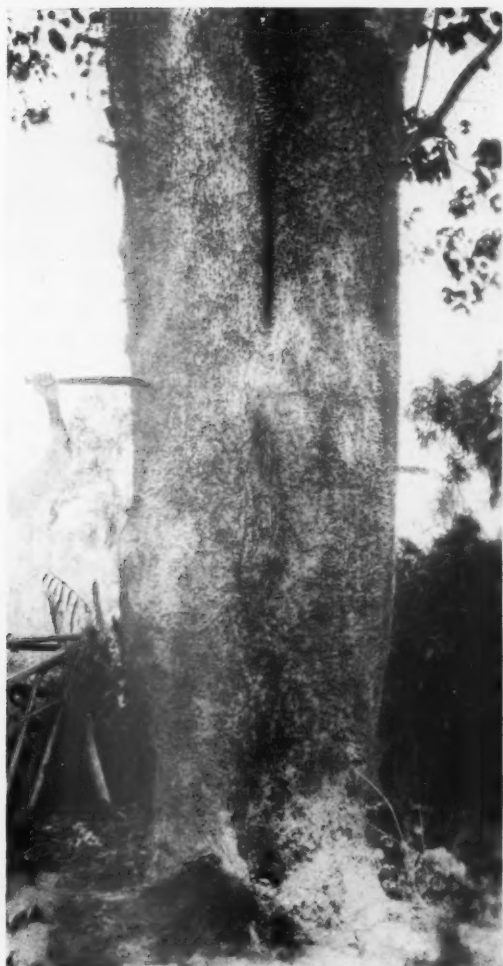


BAYAHONDE ALONG THE ARTIBONITE RIVER, WITH A NATIVE LAUNDRY IN THE FOREGROUND

Noted for its adaptability, the Bayahonde (*Prosopis juliflora*) will thrive under humid conditions on alkali free soil, or also where moisture is scant and alkali excessive. It is almost identical with the mesquite of the United States and Mexico. The wood is dark reddish-brown, fine grained and very durable.

straight with a height of sixty to eighty feet. Because of its resemblance to the white oak it probably received the name "Haitian oak." It is valuable for building and construction work, for furniture, for mortars, for the small native boats and for various other purposes. It prefers the rich, well drained soils and abundant supply of moisture.

Of trees which are able to maintain themselves under poor soil, scant moisture or alkali conditions the most important and widely distributed is the Bayahonde (*Prosopis juliflora*). It is almost identical with the mesquite of the United States and Mexico. Its size, form of growth, and appearance differ widely with conditions. In general it has wide-spreading, low-hanging branches well supplied with sharp spines and pale green



THE SABLIER

Called by the natives "Arbe au diable" the sablier (*Hura crepitans*) is a beautiful tree with large erect trunk and wide-spreading head. The bark of the trunk is gray and has many thick, short spines. The wood is soft and cracks easily so the principal use of the tree is for shade and ornament.

foliage. The seed pods are three to five inches long, slender and slightly twisted or wave-like. The wood is dark reddish brown, fine grained and very durable. It is used extensively for cross ties, for construction work, framing for native houses, for fences, for charcoal and for fuel. The inner bark of the young trees is used in the manufacture of rope.

The bayahonde has a wide range of adaptability, thriving under humid conditions on alkali free soil but also where moisture is scant and alkali excessive.

On the opposite side of the valley is a broad body of marsh land. Under the French it is said to have been used extensively for growing indigo. When we arrived in November part of the valley was covered with water from recent rains and overflow. It supported a growth shoulder high of a water-loving plant (*Thalia geniculata*) or "glagce," as the natives call it. It then looked as though our chances of getting into this part of the

valley and sampling the soil was poor indeed. In a short time, however, the water began to dry up and the natives commenced to work on the higher ground. Soon they were busy everywhere, digging and chopping with their unwieldy hoes, raking the trash into piles and burning, scraping the surface into low ridges or checks, hoeing and planting. Once they can get into it the natives fairly swarm over these lands and in a remarkably short time, considering the crude methods used, hundreds of acres are prepared and planted. When we left the valley the last of March the corn on these marsh lands had already begun to tassel.

The soils most suitable for luxuriant plant growth occupy the upper portion of the valley and gradually narrowing strips which extend along the river channels into the lower portions. The central and lower portions on account of heavy soil texture are not so good and

(Continued on Page 46)



THE TAMARIND

Another species used extensively by the French in Haiti for shade and ornamental purposes because unimportant commercially. A beautiful tree, the foliage is pale green and feathery. The bark is light gray and slightly rough. The fruit is abundant and contains a waxy gum surrounding the seed which is used in making candies and other confections.

Eastern White Pine Moves West

By D. S. OLSON

WHEN planting was first taken up by the Forest Service, a good many exotics were tried. Just why, now, seems somewhat vague, but

undoubtedly the value of our native species had not been overlooked. At any rate the planting projects in the Inland Empire included a good many tests of a large assortment of eastern hardwoods, redwood, Japanese larch, European larch, and eastern white pine.

The hardwoods long ago dropped by the wayside. The redwoods, planted ten or more years ago, struggled along hoping to just once hold their years growth against the rigors of the northern Rocky Mountain winters, but each year the new shoots froze back. Last year they gave up the ghost, never having once threatened to become the sturdy forms of their parents on the coast. There has been only indifferent success with the foreign species of larch.

Altogether about 2000 acres of eastern white pine were planted in northern Idaho and western Montana. The first few years after planting, the trees survived equally as well as the native white pine, and more rapid growth was secured by the eastern species. However, when the trees reached a height of four to five feet the snow

bent the tops badly and threatened complete destruction. Examinations of these damaged trees several years ago showed that the injury was not permanent

and that the majority of them were sending out new leaders at the first whorl below the break; or the tops had straightened leaving a sharp kink in the stem at the constriction where the trees were bent.

A plantation on the Kootenai National Forest planted in 1911 now has trees 30 feet high; one measured 5½ inches at breast height. The trees have made double the growth of the native white pine of about the same age intermingled with them. Early reports on this plantation record snow breakage when the trees were younger but very likely the trees outgrew the injury, for the early damage is no longer apparent anywhere on this area.

The younger plantations of this species in other localities will be watched with interest to see if they likewise overcome the snow damage they are now suffering, and shoot forth more rapidly than the western white pine. In that case,

planting of the eastern species will no doubt be taken up in the West with renewed enthusiasm. And, who knows: perhaps some day old Lake States lumbermen may again see their favorite white pine logs melt into the saw.



ON A PLANTATION MADE IN 1911
This is one of the Eastern White Pine visitors established in the Sylvanite district on the Kootenai National Forest.

Plan to attend the big joint Annual Meeting of the American Forestry Association and the Connecticut Forestry Association at New Haven on January 28 and 29

☞☞☞ You will gain inspiration and you can help to make this gathering a constructive force. ☞☞☞ Look at the Program on page 24.

Pine "Needle Work"

The Southern Woods Offer a Rich Supply of Raw Materials for a New Home Industry—Softly Colored Needles of the Long-Leaf Pine, Wild Honeysuckle Vine, Willow Wands and Oak Splints are Transformed by the Deft Fingers of the Pine Needle Workers

By GEORGE H. DACY

SCAN the chronicles of Dixie's history and perhaps on some dogeared page, you will come across the curious story of a certain Mrs. J. M. McAfee of Southern Georgia, who in the days of financial stress following the Civil War, repaired to the forest, gathered an apron full of pine needles and made herself a new Easter bonnet.

"Mother" McAfee needed a hat very badly but she lacked funds. With the determination of her sex in the matter of hats, she turned to Dame Nature and the result was a bonnet made of pine needles. It was a remarkable hat for it shed water like a tile roof. It was durable and inexpensive; and, we are assured, it was attractive. Shortly, all of Mrs. McAfee's friends were wearing homespun pine needle hats. This was the introduction of the beautiful pine needle into the American sewing circle. And now, after a long interval of dormancy, it has come back to test the modern Southern women's ingenuity in making artistic baskets.

The mastery of simple basketry is one of the important items on the clubwork program of many southern clubs, organized by the demonstration agents of the United States Department of Agriculture—trained experts who travel our rural regions, spreading the gospels of home beautification, better sanitation, greater conveniences, increased sociability, educational advancement and professional training in profitable pursuits for "Ma" Farmer and her daughters. The experts organize the farm girls of a community into "4-H" clubs, the "4-H" standing for head, heart, health and hands.

These club girls of Mississippi, Alabama, Georgia, the Carolinas and Florida—there are thousands of them engaged in the art of basket weaving—are earning more "pin money" than they believed the world could offer, from the fancy baskets which they make and sell for from \$2 to \$10 apiece. Tourists and visitors from all parts of the country purchase them as gifts for friends back home. Resort hotels, special stores and gift shops



BEAUTIFUL AND VARIED ARE THE BASKETS, BOWLS AND TRAYS MADE BY THE WOMEN OF THE SOUTH FROM THE CHARACTERISTIC NEEDLES OF LONG-LEAF PINE. THE INDUSTRY IS OFFERING A NEW SOURCE OF REVENUE TO THE CLUB GIRLS, FOR THERE IS A STEADY DEMAND FOR THE FINISHED PRODUCT AND EVEN FOR THE RAW MATERIALS, AS INDICATED BY THE BUNCH OF NEEDLES AT THE EXTREME RIGHT, WHICH HAVE BEEN ASSORTED AND CURED AND ARE READY FOR THE DEFT FINGERS OF THE PINE "NEEDLE WORKERS"

sell the baskets for the youthful manufacturers. Some of the girls advertise and market their baskets directly. In Tampa, Florida, there is a shop run by the home demonstration club of Hillsboro County. It sells great quantities of baskets for both Florida and Georgia club girls.

The fancy baskets are manufactured from pine needles 12 to 15 inches long which are gathered from small pine brush that is from four to six feet high. One harvest method consists of cutting green branches loaded with needles and stringing them along a wayside fence to cure for four to eight weeks in the sunshine. Another system of gathering is to pick needles from the ground where they are already cured, and of a nut-brown color, but this method is slow and tedious, and not as popular as the branch cutting system.

When the pine branches have cured sufficiently in the sunlight, the needles are pulled from the branches and dipped in boiling water in order to kill the eggs of any obnoxious insects. They are then allowed to dry naturally after which they are rubbed vigorously with a coarse cloth to clean and polish them. Needles that are cured naturally outdoors are a golden brown color while those dried indoors are of a soft green shade. Practically any hue from green to brown can be secured by proper regulation of the curing. Some experienced pine needle workers build an open fire and scorch the needles to improve their color, but this process calls for expert manipulation and experience and should not be attempted by amateurs.

Where a dark brown color is desired, the needles can be fumed with ammonia for 24 hours in cloth-covered containers. The needles are suspended in a sort of hammock directly above but not in contact with the chemical. Some girls and women have developed a sideline business in selling pine needles. They prepare the needles and then pack them in one-half or one pound bundles.

In the early days of longleaf pine "needle work" cotton thread was used as a binding material. It was

not satisfactory, so today raffia, an imported palm fiber, is used exclusively. Only a small amount is required for a basket and its cost is relatively low. Raffia is particularly satisfactory as it takes dye readily and can be colored with either aniline or vegetable dyes.

Generally, the bases of the baskets are made in either round or oval form while the curves of the sides are as varied as the configurations of imported china and costly glassware. The girls and women soon learn the various styles in stitches—the spiral tie, fern and wheat stitches, all of which are used in joining the pine needles

together with threads of raffia. The baskets are shaped as they are made into articles of outstanding grace and symmetry. The handles are made from pieces of picture wire which are wrapped with raffia and pine needles. Telephone and electric light wires are shaped with pliers to form the handles for the heaviest baskets and trays. Cones from shortleaf pine trees are commonly used as ornaments on the baskets. These cones are soaked in warm water and then are split into halves with a sharp knife. The halves are attached to the baskets with strands of raffia. Large scales from the pine cones are also used as ornaments on the baskets.

Pine needles are made into handsome mats and trays, fruit baskets, nut bowls, jardiniere for potted plants and vases for cut flowers. They are also converted into bottoms for

either cloth or silk bags, jewelry or trinket boxes, and attractive lamp shades.

The sweet-scented honeysuckle vine when denuded of its foliage and bark is also used as munitions for basketry. This twining vine grows wild and is also cultivated as an ornamental. It spreads rapidly where it gains possession of the soil and is very difficult to eradicate when it attains the proportions of a pest. Its long, uniform runners are quite ideal for basket weaving. The vines or runners which range from one-sixteenth to one-eighth of an inch in diameter are preferable. Larger sections of vine are used for handles.

When completed, the basket is either enameled, shel-



THE HEIGHT OF THE ART OF BASKETRY IS REACHED IN THESE LOVELY SHAPES, AND WHILE THESE ARE MADE OF IRIS THEY CAN BE MADE OF WILD HONEYSUCKLE JUST AS WELL. BRILLIANTLY COLORED BUTTERFLIES ARE OFTEN SET IN THE GLASS BOTTOMED TRAYS, AND OFFER STRIKING CONTRAST TO THE SOFT NEUTRAL TONES OF THE BODY WORK

(Continued on page 44)

The Heath Hen's Last Stand

By PENDLETON DUDLEY

ON the island of Martha's Vineyard are the only heath hen in the world—so far as anyone can tell, about thirty-five of them—and

greatest danger is past and that this one remaining colony has held its own during the last few years and is now about to increase in numbers. Once the heath

every spring the male birds blow out their cheeks and boom, boom, boom in an eccentric, almost indescribable way while they strut a heath hen spring dance. This is just the heath hen ritual of the mating season, but it

has the air of native Indian rites fast vanishing from our soil; observances taking on a touch of tragedy because they are performed by a few survivors who may themselves soon be dead.

But the heath hen will not perish if skilled naturalists can save them. It is even believed that the time of

Interest in this unique type of bird life was early awakened in America.

Reference was made to heath hen or grouse as far back as 1783 in the first sporting book published in this country, entitled "The Sportsman's Companion, or, An Essay on Shooting, Illustriously Shewing in What Manner to Fire at Birds of Game in Various Directions and Situations, etc., etc., by A Gentleman."

"Grouse may be justly deemed," says this old chronicle, "the sublimity of shooting; the bushy plains on Long Island is the only place I have seen in that country abounding with grouse.

The cover on said plains is an under oak wood of a strong and thick brushy nature."

hen, or pin-nated grouse, was one of the commonest game birds. Hundreds and thousands of them inhabited the territory from Cape Ann, Massachusetts, to Virginia, and inland about two hundred

miles. The bird is one of the most distinctive members of its family, not alone in appearance, but in its unusual mode of life and in what might be called its personality or individual character.

The hunter is only partly to blame for the extinction of heath hen on the mainland. It is true that the bird was hunted without mercy, but even without the dog and gun, it could not have stood the encroachments of civi-



THE HEATH HEN SPRING DANCE

This is a ritual of the mating season, when the male birds blow out their cheeks and boom, boom, boom in most eccentric style, while they strut about for the edification of the female of the species.

lization. For this game bird thrives only in a particular sort of cover. It does not take to the deep woods, but chooses instead regions covered with small trees and thickets, building its nest and rearing its young close to the ground. As the country became settled, regions of this sort usually disappeared first, and those which were left were so mercilessly exposed that they no longer proved a paradise for wild life.

But the island of Martha's Vineyard never lost its ideal hospitality to the heath hen. This island, off the southeast coast of Massachusetts, was of glacial formation; the ice packs left a long series of hills sprinkled with boulders which now reaches along the north shore of the island. As the ice went from this great glacial dump it created a great level plain reaching from the blue distance of these rocky hills ten and fifteen miles away to a line of lakes, like fiords, and a sandy shore which cuts them from the ocean. It is this great plain—unlike anything else in New England—which preserved the heath hen long enough for modern science to take a hand.

The plains of the Vineyard are covered with scrub oak and pines, with an undergrowth of huckleberry bushes; an occasional tall tree stands like a sentinel, but for the most part one great protective thicket affords perfect conditions to wild life. The region has been described as a bit of Western prairie preserved on this New England island; plains quite level save for undulating grooves where sub-glacial rivers found their way to the sea, vegetation which scents the air much as sweet fern or looms up in artistic shapes such as occasional pines or weaves together like a sea such as the scrub oaks; and on this unusual landscape the whirl not of the prairie chicken, but the heath hen, a native of this soil, now making his last stand.

Inhabitants of the island have for many years taken great pride in the heath hen; the towns are all near the shore, so that neither by design nor by accident have intruders despoiled the breeding places of the birds. Nature, less rigorous here than on the mainland, has

also dealt kindly. The climate in spring, summer and fall is mild, and modulated always by the proximity of the sea on all sides; and in winter the same influence prevents extremely low temperatures and also frees the island of deep snows which would prevent the heath hen from finding food.

The state of Massachusetts set aside a reservation in the heart of the island plain, and for some years has spent large sums of money to protect the surviving heath hen. In the early spring of 1916, the superintendent of the reservation estimated that there were two thousand birds on the island; but in May a large and disastrous fire swept the thickets and destroyed most of this large heath hen population. The birds which were on their nests burned to death without even trying to escape. Following the fire, and after diligent search,

only one hundred and fifty survivors could be counted.

But the birds slowly recovered. Added precautions were taken to prevent future fires. A fire tower was erected, from which the whole central part of the island is easily visible.

In 1920, the present superintendent, Allan Keniston, estimated that the number of heath hen had increased to about six hundred. The following year he believed there were



HUNTERS OF THE HEATH HEN

Perpetual warfare is waged against the wild house cat and the hawk in the effort to protect this last remaining colony of heath hen. The marsh hawk shown above has just been trapped with his victim after killing a heath hen.



only three hundred. In 1922 the birds reported were so few in numbers that Mr. William C. Adams, director of the Division of Fisheries and Game, sent a questionnaire to leading ornithologists and sportsmen throughout the country to determine if it were advisable for the commonwealth to continue the reservation at an annual cost of about \$4,000.00 to save the heath hen, which would never be an important game bird. The response was overwhelmingly in favor of exerting all reasonable efforts to save them. It was recommended that an intensive study be made to learn as much as possible concerning these birds before the opportunity would be gone forever and also to have an investigation of the conditions which govern the existence of the birds on the island in order that some definite proposal might be offered to aid in saving this bird. Dr. John C. Phillips took the initiative in causing this study to be made and he with the assistance of others provided the means nec-



Photograph by Dr. Alfred O. Gross, Bowdoin College

WHERE THE HEATH HEN IS MAKING ITS LAST STAND

This formerly common American game bird, now very nearly extinct, thrives only in a particular sort of cover. It does not take to the deep woods, but chooses instead regions covered with small trees and thickets, building its nest and rearing its young close to the ground.

essary for its execution. Dr. Alfred O. Gross, ornithologist of Bowdoin College, was appointed to make this study and the detailed results of his three years' study are soon to be published. Recommendations made by Dr. Gross have been accepted and put into force by the Division of Fisheries and Game of Massachusetts.

During February and March, 1924, a flock of nineteen heath hen was seen by five different persons, including Mr. Keniston, and smaller flocks brought the known total to twenty-five birds.

The situation alarmed lovers of bird life, especially those who had long been interested in the heath hen. It was even said by some authorities that not a single heath hen remained, and that the species was already doomed.

In May, 1925, a conference of ornithologists and persons interested in the heath hen was held at the State House in Boston under the auspices of the Federation of New England Bird Clubs. At this conference it was decided among other things to provide an additional warden to assist Mr. Keniston in the struggle to save the birds. Mr. Edward McLeod was selected by the Federation for this work and this organization with the cooperation of the Massachusetts Fish and Game Protective Association and the Massachusetts Audubon Society have contributed funds subscribed by bird lovers interested in saving another species from extermination. In a second conference held this April Dr. Gross reported

that there are now 35 birds on the island and encouraged by this report the Federation has decided to retain the services of Mr. McLeod for another year.

Perpetual warfare against wild house-cats has been in progress for several years, and the new intensive efforts have done a great deal in behalf of the heath hen. Curiously, natural processes seemed to be producing a new species of wildcat which, but for the intervention of Mr. Keniston and Mr. McLeod might have turned the plains into a shambles. House cats of light coloring apparently are eliminated early in their wild life, probably by hawks, because they are not adapted to the surroundings. But cats of dark coloring have bred and prospered; they have even shown pronounced changes from the ordinary types. Heavy fur, exceedingly large paws, sharp claws, and tasseled ears—much like the bobcat—are characteristics of the house cat after its adjustments to wild life.

Moreover it shows the greatest ferocity and fights desperately when cornered. Some have been of unusual size and weight. Traps and dogs are used in hunting the cats, but the traps are the most merciful that can be devised and a frequent tending of them all avoids unnecessary cruelty.

Mr. Keniston does not believe that fires, hunters or cats and vermin are the principal reasons for the rapid decline of the heath hen since 1920, for the reason that quail multiplied enormously on the island during the same period. During the summer of 1921 an island



A PORTRAIT OF THE
HEATH HEN MADE BY
DR. ALFRED O. GROSS

resident found a sick heath hen and three dead birds were picked up on the roads crossing their breeding area. It is quite possible that some disease visited the birds, and because of the dense cover but few of the victims were found.

Whatever the cause, it is apparent that for the last few years the heath hen have been holding their own, and with the special efforts actively put forward under the best scientific auspices, it is hoped that they have been saved for the future to indulge in their spring dance many generations more.

The island's pride in the unusual bird is much in its favor. A few years ago a resident of West Tisbury, the town closest to the breeding places of the heath hen, looked out of his window in the early morning and saw a heath hen walking up and down between the rows of his potatoes and picking off potato bugs. This early

morning activity, which had apparently been going on for some time, accounted for a most unusual phenomenon which the West Tisbury man had not previously understood—the unprecedented absence of potato bugs that year. It appears, therefore, that the heath hen is a friendly bird, not averse to helping those who help them.

Every year a warning is broadcast asking motorists to be careful in crossing roads near the Vineyard plains, for sometimes the heath hen chicks get into the wheel ruts and cannot readily get out.

In the times when there were about two thousand birds, attempts were made to transfer some of them to other localities, but the experiments always failed. In recent times, heath hen have not bred except on Martha's Vineyard. It is to the plains of this island, therefore, with their thickets of scrub oak that the future must look if it is to know one of the most remarkable as well as one of the most truly American game birds.

Campaigning for Forestry in Texas

By W. GOODRICH JONES

IT STARTED in the fall of 1914—the campaign for forestry in Texas. In that time much timber has gone through the mill—figuratively and literally—in our state. But we have made the grade and forestry is now written in our law in figures that hold promise for the future. It is with the thought that our experiences may be both helpful and interesting to others struggling to awaken their states from forest lethargy that this brief review of our uphill fight is written.

In November, 1914, through the assistance of our United States Senator, Morris Sheppard, Mr. J. G. Peters of the Forest Service was sent to Texas, to render aid in arousing the State to the need of the conservation of our timber. Mr. Peters proved himself a most valuable and well posted man. We called on lumbermen, state officials and newspapers, and everywhere received encouragement. Well-wishers as we found out soon, cost nothing; the battle came later.

Our first idea was to have forestry a separate department, but fortunately we changed this, letting it be sponsored by the Agricultural and Mechanical College of Texas, of which Dr. W. B. Bizzell was president.

We organized the Texas Forestry Association at Temple, Texas, the writer being elected president. This Association presented a forestry program in a bill to the Thirty-second Legislature when it met in January, 1915. We placed the bill in the hands of Mr. Richard F. Burges, of El Paso, a member of the House. The Hon. James E. Ferguson was then our newly elected Governor, and through acquaintance with him I was able to secure the insertion of a narrow plank in his

inaugural address, advocating reforestation and the conservation of our forests.

Thanks to the splendid executive ability of Mr. Burges, the Forestry Bill became law, appropriating \$10,000 a year for a department of forestry. This sum, of course, was but a drop in the bucket of our needs. Our state covers some 260,000 square miles with a forest area that once amounted to twenty-five million acres, of which twelve million were in pine and the balance in post oak, cedar, mesquite, other hardwoods and cypress. Let other workers take courage; our bill passed the Senate by a majority of only one. In the House we had a number of representatives of German descent, and of course they knew the value of trees.

I spent five weeks in Austin, where I had to answer many pertinent and impertinent questions, such as, "How are you to be benefitted by this appropriation?" Some of the solons even thought that the appropriation was for the Texas Forestry Association. Our work was largely of the kindergarten variety, few having any idea that trees were of any use except for firewood, posts or lumber. In the House the bill was referred to a committee of eleven.

I had an interesting conversation with one member of this committee in the course of which I complimented his ability and progressiveness and lauded him in other ways, and for this I must answer some day at the Bar of Judgment. Finally he said, "Mr. Jones, you have talked a lot, now I want to say something. I don't want to see no forestry dudes coming to Texas, I've read all about them. They draw the people's pay and spend their time behind their offices playing lawn

tennis. Oh, I know them, they are a lot of damn grafters, and I am opposed to your bill. Again, we've got enough lumber in Texas for a hundred years. I'm a farmer and I'm fighting 'bresh' all the time. The pesky trees grow faster than we can cut them down."

I had another cheering conversation with a legislator who was a ginner. I told him of the benefits of trees, their aid to stream flow, the forest floor acting as a sponge and of tons of water thrown daily into the air by forests. All this, I pointed out, was beneficial to climate and rainfall. His reply was, "Mr. Jones, you seem to know a lot of things that's true, and more that aint true. Trees have no influence on climate or rainfall. Only God Almighty can make it rain. When He sees we need it, He sends the rain if we pray for it, and sometimes He punishes us with a drought."

I had several other heartening talks. We despaired of our bill and believed several times that Texas was going to "the demnition bowwows" so far as forests were concerned. The success which crowned our first efforts was due largely to the press of the state. Without exception, all the great dailies backed up our work with many editorials, while Knott, cartoonist of the Dallas News, did yeoman's work with illustrations. Pictures make more and quicker converts than reams of articles because the latter are so seldom read in full.

In the year 1918 the House committee on appropriations, cut off forestry without a penny, stating that the Department was not needed and a useless expense. A few of us rushed down to Austin, had a conference and the first thing we did was to telephone the editors of all the big dailies, imploring their help. The result was that forestry received such an editorial bombardment of encouragement from all over the state as to make the Committee sit up and take notice of their error and reinstate us in the budget. From that year on the fight for a living appropriation became less severe. When the House is in session, legislators, as a rule, will not read any printed matter. The Speaker of the House allowed a few of us the freedom of the floor and we would circulate among the solons showing them pine cones and seed, also little seedling trees, before and after burning, also many photographs. What they much enjoyed was pictures of razor-back hogs digging holes and uprooting the young long-leaf pines, so that they could feed on the sweet roots.

At first the lumbermen were not friendly to our cause, but when we gave up the severance tax on lumber for our revenue, they came to our support. Our recent successes are largely due to the zeal and untiring efforts of such lumbermen as Senator I. D. Fairchild, of Lufkin; Mr. R. W. Wier, of Houston, Mr. Gary B. Sanford and Mr. Eugene Blount, of Nacogdoches.

The writer came to Texas in 1884 and was commissioned by the United States Forest Service to report on pine conditions in East Texas. We had, forty or fifty years ago, some twelve million acres in wonderful virgin pine, then of little value. Some farmers ringed their trees and burnt them, thinking the land would grow fine corn and cotton. Most of these old fields have reverted to forests. Today we have only some 1,500,000 acres in virgin pine left, with about 2,000,000 acres of inferior second growth. This is being cut at the rate of 200,000 acres per annum. Over 4,000,000 acres are lying idle. Fire does not often damage the large trees except where negroes have made terrible gashes cupping for turpentine. Fires burn the sage grasses killing the seed trees and stunting those that survive. The state owns no forest lands except what was recently bought at \$5.00 an acre for the Department of Forestry, some 4000 acres and a limited area of prison lands.

Texas grows long-leaf, short-leaf and loblolly pines. Our future hope lies in the short-leaf as it will grow saw logs in 30 years.

Our first state forester remained with us two years. Mr. E. O. Siecke, who was assistant forester of Oregon, was next secured by Dr. Bizzell. He has made a wonderful success with his department, as he not only understands every phase of the work, but is a fluent speaker and a good mixer.

Over a thousand bills are introduced into our Legislature at every session, and out of one hundred and fifty solons, two-thirds of them are new members every two years. The best executive management with ability to "pick cotton" with the members is required to get an appropriation through. But in spite of this, and in the face of all kinds of economy programs our forestry appropriations have grown steadily as follows:

1915-16-17-18	\$10,000 per annum
1919-1920	\$12,000 per annum
1921-1922	\$20,730 per annum
1923-1924	\$21,560 per annum
1925-1926	\$48,980 per annum

Besides the regular 1923 appropriation, \$20,000 was allowed for the purchase of cut-over forest land to initiate the work of a state forest. The 1925 appropriation was increased by the surrender from the prison system to the Department of Forestry, of 2,300 acres of forest land in Cherokee County which contains a good stand of pine timber.

Our assets for the two fiscal years amount to some-\$200,000. The state forest service employs 28 fire patrolmen and 3 inspectors, responsible for over seven million acres. While this work for forestry during the past ten years has taken considerable time it has proven to those interested to be a work of great pleasure and satisfaction.



Pine Needle Work

(Continued from page 38)

lacked or varnished in order to increase its durability and to make it more ornamental. Ivory enamel is an excellent finish as it withstands wear and is practically the same color as the cured honeysuckle vine. Clear varnish is also very satisfactory. Gray tones are pleasing where distinctive colors are desired.

A popular plan is to utilize willow and oak splints in combination with honeysuckle vine where the former materials are used in ornamental basket making. The willow used as ribbing adds strength to the baskets.

White oak is best for basketry splints. The green oak is cut into strips one-quarter to three-eighths of an inch wide and from one-thirty second to one-sixteenth of an inch thick. These splints have to be rubbed down with sandpaper and scraped with glass before they are suitable for basketry. Trays made of willow and honeysuckle vine, in particular, are popular while tall flower vases are made of oak splints and honeysuckle vine. Rustic hanging baskets for use outdoors on porches are made of honeysuckle vine and willow from which the bark has not been removed.

The wild honeysuckle vine should be gathered during the period from September to March throughout the

Gulf Coast States. The leaves are stripped from the vines by hand and then the honeysuckle runners are bound into small bundles and boiled in water for one and one-half to two hours. This process softens the bark so that it can be rubbed off readily by drawing the runners between the thumb and forefinger, protected with a cloth covering. In case the bark is unusually tough and adherent, a little washing soda or lye added to the boiling water will facilitate the bark removal.

The runners after being "barked" are dried, and all knots and rough spots removed from the vines with a sharp knife, piece of glass and sandpaper. The fancy baskets are made of two sets of runners—the so-called ribs and the weavers. The ribs are the pieces that cross in the center and are turned at the base in a vertical position while the weavers extend horizontally around the basket. In the smaller baskets, only a half dozen ribs are used while in large specimens as many as 20 ribs are sometimes essential. The runners are soaked in either warm or cold water before the weaving begins in order to make them easily pliable. The real art in basketry is to weave these raw materials together most perfectly to form a useful and beautiful article.

Interesting Trees of Haiti

(Continued from page 35)

the shallow rocky soils of the adjacent slopes are poorest of all.

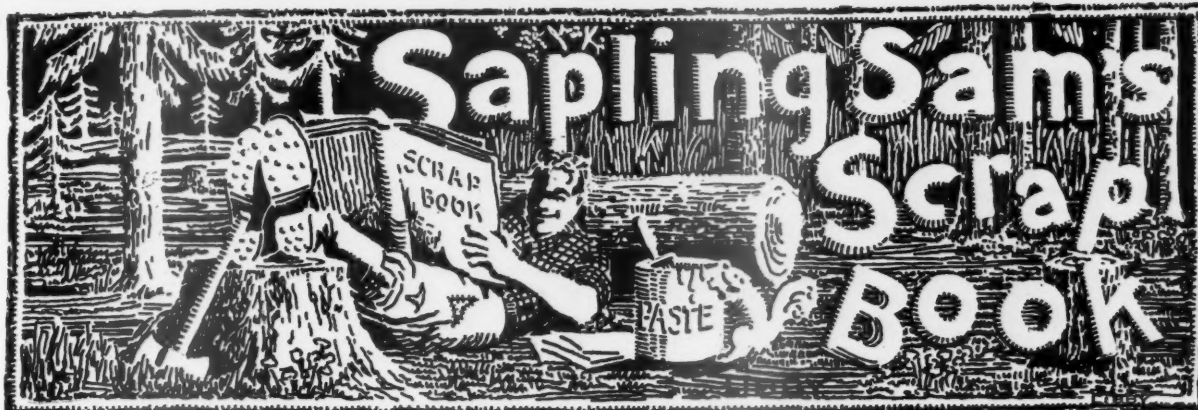
In the lower part of the Artibonite Valley there are extensive areas which carry alkali in varying amounts. Many plants are extremely sensitive to alkali conditions and do not thrive in its presence even in small amounts. A large part of the vegetation of the upper part of the valley is of this character. Another group of plants thrive only under conditions of high alkali concentration. "Pickle weeds" and "salt bushes" of various kinds belong to this group.

Between the group of plants requiring an abundant moisture supply and favorable soil conditions on the one hand and those thriving only under conditions of

high alkali concentration on the other there is an extensive group. These grow under conditions of scant rainfall, where the soil is shallow and rocky, where it is heavy and does not release the moisture when needed or where medium amounts of alkali are present. Any one or all of these conditions unfavorable to plants of the other groups give those of this group possession.

A chart showing the plant distribution would therefore not correspond to a chart of the rainfall, to the soil map nor to the alkali map but would be a composite of the three. Expressed in another way, scant moisture supply, unfavorable soil conditions or alkali in limited amounts seem to have much the same effect in determining plant distribution.





Kentucky Fare

It hasn't been hard to locate men about the streets since the chestnut season began. "Have you seen John Doe?" I ask. "What kind of chestnuts did he have when you saw him last?" I will be asked in return.

"He had chestnuts from Lost Creek," I reply. "Well, I saw a pile of Lost Creek chestnut hulls down there in front of Riffle's about thirty minutes ago." So I go to Riffle's front and there is my man, leaning against the post.

Judge Chester Bach has the advantage when it comes to disposing of the empty hulls. He sits in a swivel chair behind the bar. (Type of bar is not specified. S.S.) He can make a semicircle on the floor whilst the lawyers, who sit in front of the bar, have to pile their hulls at their feet. At times, however, the piles get so big that the lawyer's feet are completely hidden from view.

—Jackson, Ky., *Times*.

Shoddy

Old Sheep (to lamb): "Don't you let me catch you associating with any of those trashy rabbits. Remember, you are all wool, and they've got cotton tails."—*Southern Agriculturist*.

Now Won't Someone Burn the Turnips?

Our notion of the zero hour in science is the announcement that a French botanist has succeeded in grafting a garlic plant on a cabbage plant.—*Beloit Gazette*. Whew! Think of the sauer kraut.—*Kansas Industrialist*.

New Out-door Sport

From the West news comes of a new outdoor sport—scaring coyotes to death! The directions given are as follows: Arrange to have the coyote cross the road in front of your "flivver" and run up the side of a canyon about fifty yards, where he is then supposed to wait obligingly until you can unload your heavy artillery from the jitney's interior. At the first shot he surprises you by dropping instead of tearing off at a high rate of speed, with his tail tangled up in his hind legs, as coyotes are prone to do. After sufficient time has passed, you warily

approach the coyote, poke him with a long pole, and as he shows signs of life, you give him a shot that apparently ends his lamb killing days. But, upon skinning him, you can only find one wound, which has resulted from the second shot! Query—what turns the trick? Anyway, Forest Rangers Cassidy and Rodrigues, on the Chama District of the Santa Fe National Forest, claim this experience happened to them recently and they are planning on making money this winter by scaring coyotes to death with pop guns.

Not So Courteous

American Lady: "I say, Chauncy, are the American fox hunts like the ones you have in England?"

Englishman: "Exactly, old thing, except that in England when they see the fox they say 'tally-ho,' and in America they say 'There goes the damn thing'."—*The Ogemaw (Mich.) County Herald*.

Insulted

The hunter, who had been mistaken for a deer and was shot, roused up and beckoned to the hospital nurse.

"Understand," he said, "I don't care so much about being killed, but it's this being made game of that hurts my feelings."—*Southern Agriculturist*.

We Aim to Please

DEAR SAM:

Here is another one on Wes Day, but don't get it tangled up as you did the ox teamster story. You seem to have forgotten more than you ever knew about ox driving.

Wes Day's crew, working logs across Esquenagama lake, got into a place where the anchor would not hold. Wes came on the raft and watched awhile. "You don't throw it out right. Let me show you."

A fluke caught under his jacket and down he went with it. Bubbles and muddy water came up, one grabbed a boat hook, another jerked off his boots, then Wes's head bobbed up. "Blub—poof—she'll stay now, b-God!"

Yours truly,

Bill Burl.

It is some time since I drove a ox. How should I know nigh ox from off ox?—S.S.



"Who's Who" Among Our Officers



CHARLES L. McNARY
United States Senator and Vice-
President of The American Forestry Association.

BORN on a farm near Salem, Oregon, a love of trees pervaded the early boyhood of Senator Charles L. McNary. Among his first memories is that of a splendid grove of fir and maple trees on the homestead near his birthplace. Later Senator McNary owned this old homestead and has since planted it to trees.

Educated in the public schools of Salem, Senator McNary later attended Stanford University and for a number of years was Dean of the Willamette College of Law. He received the degree of Doctor of Laws from that university and is by profession a lawyer. In 1913 and 1914, Senator McNary was Associate Justice of the Oregon Supreme Court and later Chairman of the Republican State Central Committee.

In May, 1917, he was appointed by Governor Withcombe to fill the unexpired term of Senator Harry Lane and in the following year to fill a vacancy caused by the resignation of Honorable F. W. Mulkey. He was elected to fill the short term ending March 4, 1919, and has since been elected and re-elected for six-year terms. His present term expires in 1931.

As Chairman of the Senate Select Committee on Reforestation, Senator McNary has held hearings throughout the country and sponsored the famous Clarke-McNary Bill which he introduced into the Senate and Mr. Clarke in the House. He is now joint author with Congressman Woodruff of a bill to acquire a large acreage to protect the watersheds of navigable streams and has shown throughout his political career a keen interest in conserving, utilizing and replacing the forests of the country.

When Senator McNary came to the Senate, the Government was assisting the states to the amount of \$125,000 for forest protection against fire. Today the Government is aiding to the extent of \$660,000. It was he who persuaded the Government to spend \$50,000 for the use of airplanes in fire protection along the Pacific coast. As Chairman of the Committee on Agriculture and Forestry he has always taken a live interest in the advocacy of measures calculated to protect and perpetuate the forest growth of the country. He was elected a Vice-President of The American Forestry Association in 1926.

The Artic Mail

(Continued from page 23)

lem in Arctic travel—for dog food. It was well for him that he had, too, for the night of February twenty-second was the worst of the year. Toward evening the north wind slackened, and then died away; the sky cleared and the northern light glowed overhead, broad bands from east to west cutting off the northern half of the sky, bands which suddenly frayed at the bottom, dropping colored ribbons of light; then about ten o'clock a light wind came from the south. It clouded, and in another hour all hell had broken loose. For three days the storm raged with flying snow so thick that Eskimos clasp hands could not see each other, and it was as much as a man's life was worth to crawl from an igloo to the cache a few yards away, without a line to guide him back to safety. Natives were covered over in their igloos and had to be liberated by their friends; and anyone caught from shelter would surely have perished.

Two weeks later Ned again left Wainwright, on his last trip down the coast for the season. I had planned that Upiksom, my Eskimo guide, and I should follow the mail sled to Kotzebue, but we were not ready, so the mail left without us. In a few days, Upiksom and I followed down the coast, and found all the Eskimos had cleaned up their igloos in honor of our visit. The first day out from Wainwright, we made Icy Cape, sixty miles away, having traveled against a head wind with the thermometer at forty degrees below. As the days passed, we slowly gained on Ned; occasionally we crossed a trail which we could follow for a short distance, and at the end of a week we overtook the tired mail team at Point Hope, three hundred and fifty miles from Barrow. We set the pace for the heavily loaded mail sled, and I had cause to wonder at Ned's extensive vocabulary,—for I could have sworn he had never had experience driving mules!

At Kivalina we had a bad blow and Upiksom and I were desirous of stopping for a rest. When informed of our decision, Ned stoically gathered his harness preparatory to hitching the dogs and departing. I protested that he could wait one day.

But he only replied, "The mail,—it got to go through."



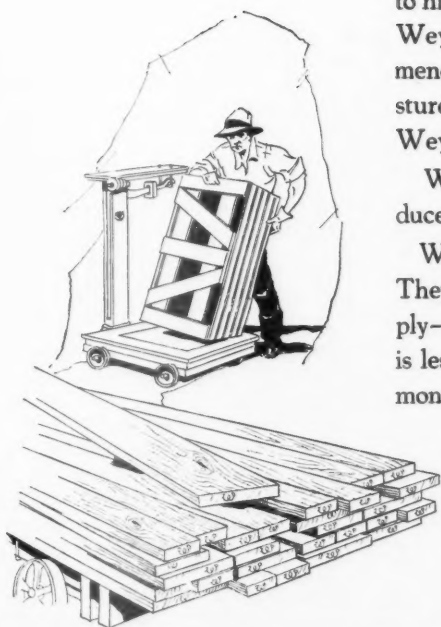
Switched Woods— Saved \$10,000 in One Year!

AN ALERT manufacturer recently added \$10,000 to his profits, by switching from heavy hard-to-work woods to Weyerhaeuser light weight lumber for his crates.

Here is how the extra profit was made. A timely suggestion to his boss from a harassed packing room foreman brought a Weyerhaeuser man to the factory. As a result of his recommendations the old heavy crates were replaced with a light, sturdy crate made from the right one of the eight different Weyerhaeuser light weight crating woods.

Wasteful weight was eliminated. Freight charges were reduced and the startling savings noted above accrued.

Weyerhaeuser crating woods are strong. Yet light in weight. They work easily. Nail without splitting. A dependable supply—always—in standard grades and lengths. The final cost is less. Call a Weyerhaeuser man. He may be able to save money for you.



If you can standardize your crates, you will save additional money with Weyerhaeuser cut-to-size crating lumber—bundled, ready to nail up. No freight on waste. No costs for cutting. Less storage space. Rapid packing.

WEYERHAEUSER FOREST PRODUCTS SAINT PAUL • MINNESOTA

Producers for industry of pattern and flask lumber, factory grades for remanufacturing, lumber for boxing and crating, structural timbers for industrial building. And each of these items in the species and type of wood best suited for the purpose. Also producers of Idaho Red Cedar poles for telephone and electric transmission lines.

Weyerhaeuser Forest Products are distributed through the established trade channels by the Weyerhaeuser Sales Company, Spokane, Washington, with branch offices at 806 Plymouth Bldg., Minneapolis; 208 So. La Salle St., Chicago; 2563 Franklin Ave., St. Paul; 1600 Arch St., Philadelphia; 285 Madison Ave., New York; 812 Lexington Bldg., Baltimore; Portsmouth, Rhode Island; 2401 First National Bank Bldg., Pittsburgh; 1313 Second National Bank Bldg., Toledo.

Mention AMERICAN FORESTS AND FOREST LIFE—It Helps





AROUND THE STATES

WITH

THE AMERICAN FORESTRY ASSOCIATION

New Vermont State Forest

"In order that the property may forever contribute to and enhance the natural beauties of the Williamstown Gulf Highway," 206 acres of forest land in Williamstown have been deeded to the State of Vermont, by Miss Mary E. Watermann. This land, which is to be known as the "Ainsworth Forest Park," is on the east side of the beautiful Williamstown Gulf Road, and borders this highway for over a mile.

One of the provisions of the deed forever prevents the erection or maintenance of buildings or structures for commercial purposes, and no cutting of trees will be allowed within fifty feet of the road.

This gift is a valuable addition to Vermont's forest holdings, states R. M. Ross, Commissioner of Forestry, not only for the protection it affords one of the state's scenic drives, but also as an excellent forestry demonstration area.

Vermont now has sixteen state forests, containing about 31,000 acres, which include several of the state's greatest scenic attractions.

National Conservation Committee Planned

Upon call of the Executive Committee of the National Conference on Outdoor Recreation, representatives of some thirty forestry, park and wild life associations met in Washington on December 8 to perfect a plan to forward pending conservation legislation in the present short session of Congress.

At this meeting a temporary committee was organized to perfect a nation-wide committee which should work through a small group on the ground at Washington. This committee will work in close cooperation with the Executive Committee of the National Conference on Outdoor Recreation. George D. Pratt, President of The American Forestry Association, was ap-

pointed chairman and Arthur Ringland, secretary.

Among those who attended the meeting were Philip W. Ayres, New Hampshire; Wilson Compton, Robert Sterling Yard, Shirley W. Allen, Arthur Ringland, A. C. Oliphant, Charles Sheldon, and J. P. Holman, of Washington; D. A. Crocker, John Burnham, George D. Pratt, Marshall McLean and George Bird Grinnell, of New York; David H. Madsen of Utah, R. Y. Stuart of Pennsylvania, Seth Gordon of Chicago, William C. Adams of Massachusetts, Chauncey Hamlin of Buffalo and Judge Lee Miles of Arkansas.

Thirteenth National Game Conference

Plans to secure action during the present session of Congress on the Migratory Bird Refuge Bill were a prominent feature of the Thirteenth National Game Conference held at the Hotel Pennsylvania in New York, on December 6 and 7. The conference passed only a few resolutions among which were renewed endorsement of the Migratory Bird Refuge Bill in the exact form in which it is now before Congress, and a call upon the United States Senate to pass the McNary-Woodruff bill to provide a chain of Eastern National Forests, without delay.

Unusual interest was manifest when Dr. E. W. Nelson, Chief of the United States Bureau of Biological Survey spoke on the heavy wild fowl losses resulting from reduced water areas west of the Mississippi. Dr. Nelson pointed out that there is a crowding of birds in the remaining lakes and marshes, the water of which through evaporation and concentration of alkaline contents seems to become poisonous to the wild fowl. He declared the marshes that are drying up could be flooded at moderate expense, and thus converted from death traps into healthy resorts for birds.

Numerous other interesting papers were presented, including a discussion of vermin by Alex MacVicar, Head Gamekeeper, Hempstead House Estate, Long Island; the status of the wild turkey by Nash Buckingham of the Western Cartridge Company, and the importance of the work of the gamekeeper by E. A. Quarles, of New York. Important reports were made by Dr. A. A. Allen of Cornell University, on the grouse diseases investigation; Herbert L. Stoddard of the Biological Survey on the quail investigation and Dr. A. K. Fisher of the United States Bureau of Biological Survey on the progress of vermin classification. Shirley W. Allen, Forester of The American Forestry Association, spoke on the relation of forests to wild animal life.

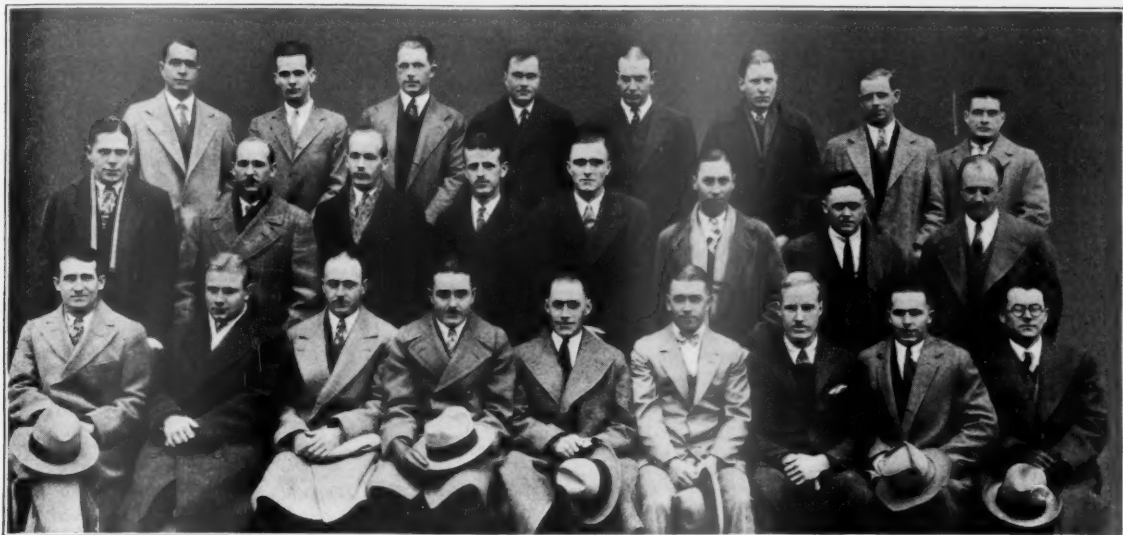
The conference closed with a dinner at the Hotel Pennsylvania at which Col. Theodore Roosevelt, Hon. J. B. Harkin, Commissioner, Canadian National Parks, Ottawa, and George Palmer Putnam were the speakers. Mr. Putnam showed moving pictures of the Greenland Expedition from which he has just returned.

Judge Lee Miles of Arkansas was elected Chairman and Geo. D. Pratt, First Vice-President.

Georgia Gets More Fire Protection

A total of 125,000 acres of valuable timber property in Georgia has recently been placed under organized fire control, according to B. M. Lufburrow, state forester. This was accomplished through the efforts of the Georgia Forestry Association working in conjunction with timber protective organizations throughout the state.

Both State and Federal financial aid has been given these protective organizations to enable them to carry on their work. Full time patrolmen are employed to supervise certain districts for the protection of which they are held responsible.



A typical group of Davey men

*Not a man whose honesty is questioned!
Not a man who is a loafer!
Not a man who is careless!*

The story of the building of the Davey Organization is an interesting thing in itself. It is an impressive story to anyone who is concerned with the problem of human organization. Because The Davey Tree Expert Company has very little to sell except the service of trained, responsible men.

Not a man is used in the Davey organization who is not Davey selected and Davey trained. The reason that there are no dishonest men or loafers or careless ones in the Davey organization is a very simple one. It is because the wrong kind are kept out or eliminated as quickly as they are discovered. The process of elimination goes on continuously.

The cost of training a Davey Tree Expert is very considerable. Even the cost of selecting one is heavy. It makes no difference how much of an investment the Davey Company has in a man, if he proves to be the

Nearly 800 selected men, with the wrong kind immediately eliminated, and with the remaining good ones thoroughly trained, both practically and scientifically, all carefully supervised and disciplined and held to a high standard of workmanship, technique and professional ethics—this is the organization of Davey Tree Experts

By Martin L. Davey
President

wrong kind, he is eliminated without waste of time. All because the Davey Company has little to sell except trained and reliable human service and a reputation to maintain.

It is the unvarying policy of The Davey Tree Expert Company to give superior service of unquestioned value and integrity. You see the finished product in the truly remarkable men to whom you entrust the care of your priceless trees. The purpose of this little story is to tell you *why* they are uni-

formly good and uniformly reliable. You must buy tree expert service on faith, and we propose that your faith shall be amply justified. We guarantee the integrity, training and skill of Davey representatives.

The Davey Tree Expert Co., Inc.,
750 City Bank Bldg., Kent, Ohio.
Branch offices with telephones: New York, 501 Fifth Ave., Phone Murray Hill 1629; Albany, City Savings Bank Bldg.; Boston, Massachusetts Trust Building; Pittsfield, Mass., Stevenson Bldg.; Providence, R.I., 36 Exchange Place; Philadelphia, Land Title Bldg.; Baltimore, American Bldg.; Washington, Investment Bldg.; Pittsburgh, 331 Fourth Ave.; Buffalo, 110 Franklin St.; Cleveland, Hippodrome Bldg.; Detroit, General Motors Bldg.; Cincinnati, Mercantile Library Bldg.; Louisville, Todd Bldg.; Indianapolis, Fletcher Savings & Trust Bldg.; Chicago, Westminster Bldg.; St. Louis, Arcade Bldg.; Kansas City, Scarritt Bldg.; Minneapolis, Andrus Bldg.; Montreal, Insurance Exchange Bldg.; Toronto, 71 King St., West; Stamford, Conn., Gurley Bldg.; Hartford, Conn., 36 Pearl Street.

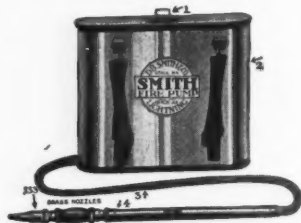


John Davey
Father of Tree
Surgery
Reg. U. S. Pat.
Office

DAVEY TREE SURGEONS

SMITH INDIAN FIRE PUMP

A well built fire pump for long hard service.



For Fighting Forest Fires; Brush Fires; Grass Fires; Fires in Homes; Garages; Farm Buildings; Railroad Freight Houses; Warehouses; Factories; in Fact for Fighting Fires Anywhere.

TO OPERATE: Fill tank with water or any fire fighting solution. Carry the tank on the back like a pack basket, by placing carrying straps over shoulders and under arms. Hold the brass pump cylinder Fig. 4 in one hand and with the other hand on the pump handle, easily work the pump handle back and forth, when the Fire Nozzle, Fig. 153, will throw a long distance stream in any direction desired.

Knapsack Tank holds about 5 gallons. Well made of heavy galvanized steel, or all brass as ordered.

Best grade 1-2 inch 5 ply hose.

Pump made entirely of heavy brass, with brass ball valves. Has no leather valves or packing to wear out. Works with ease, producing a continuous unbroken, long distance stream with slow pumping. Very powerful.

Indian Fire Pump with all Brass Tank, Ea. \$10.50

Indian Fire Pump with Galvanized Steel Tank, Ea. \$8.00

Shipping weight 11 lbs.

Write for folder and quantity prices on full line.

D. B. SMITH & COMPANY
Utica, New York

California Welcomes Tax Reform

Due to the passage of the recent forestry taxation amendment in California, the Pickering Lumber Company, through its vice-president, D. H. Steinmetz, announces that it will commence a system of sustained yield cutting on their lands. This company is one of the state's largest operators.

Henceforth logging crews will leave standing every tree of 20 inches and under. The previous limit has been 12 inches. Negotiations are also under way for the purchase of 960 acres of cutover land for reforestation purposes, under the supervision of their forest engineer.

American Forest Week for 1927

April 24 to 30, 1927, was the week decided upon for the observance of AMERICAN FOREST WEEK, at a meeting held by the executive committee at which R. S. Kellogg, of the News Print Service Bureau, presided as chairman. This week will be the same as that of Canadian Save-The-Forest-Week, as was the case last year. It is also hoped that Mexico will join in the observance, making it a North American Forest Week.

Shirley W. Allen, Forester of The American Forestry Association, will serve as Secretary of the Committee, and Ovid M. Butler was appointed to the executive committee.

Lightning Fire Studies

That fires caused by lightning are often not discovered until 48 hours after the storm has passed, is one of the interesting items listed in the charts on lightning studies prepared by H. T. Gisborne, of the Northern Rocky Mountain Forest Experiment Station. This delay is generally due to forest fuels being too damp to blaze for some time after the storm passes.

The primary purpose of these studies is to determine to what extent the danger of forest fires started by lightning is modified by the amount of rain accompanying the storm. It has been found that there is greater fire danger when the rain is of short duration because the timber has less opportunity to absorb the moisture.

One of the practical results obtained from these charts is the determination of the number of hours between first sighting each lightning storm and the time of discovering each fire which it causes.

Forests and the Press

"Without forests the whole framework of our civilization would be wrecked," says Ellwood Wilson, in the *Syracuse News-Letter*. "That is what would happen if our forests were to be exhausted, for beyond America there are no forests that can take the place of our own; indeed, the wood-working and utilizing industries of much of the outside world would be ruined with the passing of our forests. To cite one example: Because of paper the whole physical basis of the printer's art and the universal domain of the printed word are founded on the forests. Try to visualize this America of ours without the printing press. It simply could not run. Public education would collapse, the newspapers would perish, books would be no more, advertising would cease, business would revert to the petty dimensions of peasant economy and life would become drear and barren."

Save the Calaveras Groves!

An organization under the name of the Calaveras Grove Association has recently been incorporated in California, with headquarters at Stockton, for the avowed purpose of preserving the Calaveras Big Tree Grove as a state park.

The "north grove" consisting of 1,760 acres of densely forested land, including 110 imposing sequoias, is owned by Robert Whiteside, of Duluth. The Pickering and Standard Lumber Companies own the "south grove" in which there are about 1,380 Big Trees. Preliminary overtures by the Association apparently indicate that the owners of the two groves are in accord with the purposes of the Association, and it is hoped that the terms of purchase may be agreed upon.

The yellow and sugar pine trees on these tracts are said to constitute the finest stand of its kind on the western slope of the Sierra.

Galvanized Steel Towers FOR THE Forest Service

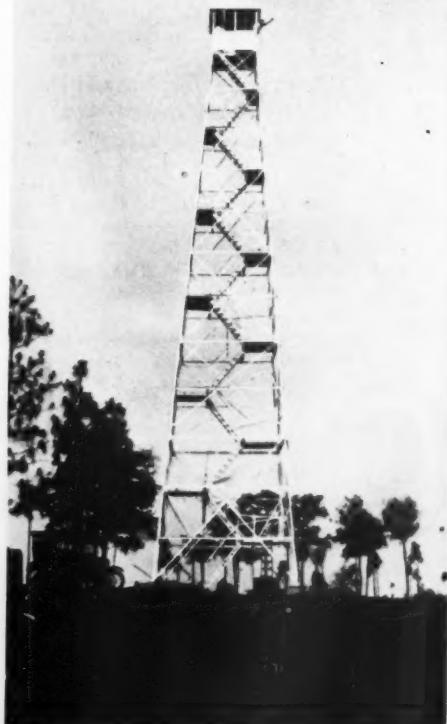
Our long experience in designing and building a great variety of steel towers has enabled us to produce this superior line of towers for Observation and Fire Protection purposes.

The house at the top of the tower is 7-ft. square. It provides comfortable quarters for the observer.

The illustration shows an 80-ft. tower of the LS-40 type. It was erected at Kirbyville, Texas, for the State Forestry Department. This tower has a regular stairway, with a railing on both sides, from the ground to the cabin. It is safe and easy for anyone to climb. The prices are moderate.

AERMOTOR CO.

2500 Roosevelt Road
CHICAGO, U. S. A.



Major Ahern Discusses Tropical Forestry

At the national meeting of the Woods Industries Division of the American Society of Mechanical Engineers held in Chicago, Major George P. Ahern, of the Tropical Plant Research Foundation, read an important paper on "The Aim and Scope of a Research Into Tropical Woods." It was an account of the investigation which he and his associates are carrying out for the purpose of discovering what, if any, tropical species of woods may be found useful and practically usable for American wood-working requirements in the place of native species of which the quantity or the quality is deteriorating.

At the same meeting, Mr. M. E. Dunlap of the Forest Products Laboratory, United States Forest Service, Madison, Wisconsin, read a paper on moisture-resistant coating for wood, a subject of which he has made special study.

Conference on Public Land Policies

On December 9 representatives of associations and public officials interested in public land policies met at the United States Chamber of Commerce, Washington, at the invitation of the Federated Societies on Planning and Parks.

There was a full day's discussion of public land use with the hope that some constructive program might be adopted which would result in a definite public land policy for the United States. Chairman Frederic A. Delano was authorized to appoint a committee to determine what kinds of public lands have not yet been thoroughly studied and inventoried, and report back to the group so that new studies could be inaugurated.

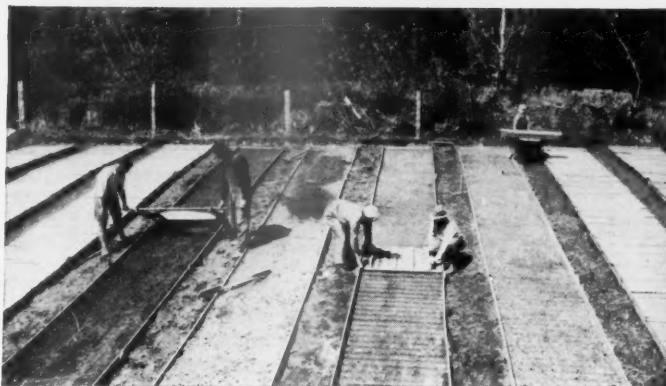
A marked feature of the meeting was a statement by Col. Wm. B. Greeley, Chief Forester, on the land classification work of the Forest Service, and on the estimated total amount of public lands and purchased lands which should eventually be in the National Forests.

Assistant Secretary of the Interior, E. C. Finney, discussed pending legislation for regulating of grazing on the public domain, and A. E. Demaray of the National Park Service outlined the status of projected additions to the National Park System.

Regional Conferences Held in South

Six regional conferences, under the auspices of the Pine Institute of America, were held in the South during the month of November. These were all marked by lively discussions of operators and landowners interested in turpentine.

At the conference held at Biloxi, Mississippi, November 6, C. L. Johnson and J. K. Johnson of the Great Southern Lumber Company, Miss Eloise Gerry of the Forest Products Laboratory, O. H. L. Wernicke, President of the Pine Institute,



Preparing Seed Beds in Forest Nursery—Washington

Exponents of Industrial Forestry

Lumber manufacturers are finding ways to apply forestry principles to the handling of their wood lands.

Such applications involve consistent and well planned programs of

**Fire protection for all lands
Insect control operations
Selective logging in pine
Improvement thinnings
Forest nursery development
Replanting in cutover areas
By-products research**

All these activities are going forward on a commercial scale in the Southern and Western operations of

THE LONG-BELL LUMBER COMPANY

R. A. Long Building

Kansas City, Missouri



Planting Seedlings at Ryderwood, Wn.



Sensible Care of TREES—

insures trees strong and luxuriant with the vitality of healthy natural life.

Nature Wants Trees

Give Nature a chance—save young trees and prolong the life of old ones. It is not necessarily costly and may be less than you consider fair for labor and equipment expense.

Simplify routine work with intelligent service; pruning, root feeding, spraying, cleaning out and filling rotting holes with materials that particular cavities will carry permanently—and frequently cover with new growth.

The Tree Care Service Bureau is an organization of local specialists who follow the motto—**"If you want a thing done right, do it yourself."**

Investigate SAVINGS and SERVICE: Hire a local TREE CARE MAN who knows, by simply mailing a card to this Bureau.

No charge. No obligation. Let us send a Government Guide, "Care of Trees" and our own suggestions. Sent free to promote sensible tree care. Our local members will call if requested. Address: Manager, TREE CARE SERVICE BUREAU, Great Oak Lane, Pleasantville, N. Y.

VAN YAHRES TREE SERVICE,
Westbury, New York

MUNSON-WHITAKER COMPANY
Tremont Bldg., Boston, Mass.

H. STEVENSON CLOPPER
2831 Ridgewood Avenue, Baltimore, Md.

CHAS. F. IRISH COMPANY
Bratenahl, Cleveland, Ohio

THE L. H. MEADER COMPANY
Providence and Newport, R. I.

HARRISON, MERTZ AND EMLEN
1713 Sansom Street, Philadelphia, Pa.

H. L. FROST AND COMPANY
Arlington, Mass.

LANDSCAPE FORESTERS, LTD.
52 Vanderbilt Ave., New York

WEAR YOUR EMBLEM



Our artistic membership emblem was designed by one of the largest emblem manufacturers in the world. It is octagon shaped with gold beveled edges. The tree is modeled in gold and covered with transparent green enamel. The A. F. A. is in-laid in dark green enamel.

\$2.00 each, postpaid

THE AMERICAN FORESTRY
ASSOCIATION,
Washington, D. C.

R. D. Forbes, Southern Experiment Station and Roy L. Hogue, State Forester, were the principal speakers.

Miss Gerry and Mr. Wernicke also made interesting talks before the Bainbridge, Georgia conference held on November 9.

Christmas Trees That Grow Again

In the 16-acre juniper plantation which Frank Rush established 13 years ago at Cedar Creek, on the Wichita National Forest, Oklahoma, Christmas trees are cut and yet left to grow. When these trees, according to *The Forest Worker*, reach an average height of 13 or 14 feet, they are cut to within a foot or so of the ground, leaving one vigorous branch. This branch, fed by a strong root system, soon develops into a large tree.

County Forests in New York State

In accordance with recent New York State Legislation the Monroe County Park Commission has been organized for the purpose of acquiring lands within the county that will serve as county forests. During the last week of October a preliminary examination of possible areas was made by the Commission assisted by Paul D. Kelleter, Director of Forest Extension and Professor H. R. Francis, head of the Department of Forest Recreation, both of Syracuse and Herbert Blanche, Forester for Finger Lakes Commission, Ithaca.

Practically every interest can be served because of the diversity in the available areas. It is the intention of the Commission to develop these areas as natural forest areas, with the minimum disturbance of conditions possible in providing for general public use. It is also planned to have the use of these areas so controlled that they will serve as sources of income from forest products, provide for recreation and refuges for wild life.

Porto Rico Encourages Reforestation

More than 3,000 acres have already been set aside for reforestation under the provisions of a law which went into effect in Porto Rico, July 28.

The assessment value for taxation purposes has been lowered, under this law, to \$1.00 on all lands that are planted to forest trees and to new coffee forests, prior to 1930. This low rate will remain in effect for a period of five years from the time of planting.

Seedlings From Gethsemane Cypress Trees

Cones from the historic cypress trees that stand in the Garden of Gethsemane, brought back by a forestry student of the University of California, have produced flourishing seedlings in California nurseries.

When weather conditions were favorable, the seed were sown by Professor Woodbridge Metcalf. With careful attention many germinated and grew into sturdy seedlings, averaging 2" to 3" in height at the end of the growing season. On removing them from the seedbed, half were placed in a transplant row on the Berkeley campus and the remainder sent to the State Forest nursery at Davis. The latter trees are now 8" to 12" high and ready for distribution.

Some of these are being held by State Forester M. B. Pratt for the California missions and other churches so that in a few years these young trees, with their dense, dark green, sombre foliage will be representative of their parent trees in the Sacred Garden in Palestine.

Town Forest Project Considered

That the time is ripe for towns throughout the state of Washington to become interested in the movement for establishing town forests is the opinion of W. G. Weigle, Supervisor of the Snoqualmie National Forest.

Mr. Weigle points out the success that Massachusetts and other eastern states have had in this line, and believes that the establishment of such a project in Washington would do much toward creating a popular interest in reforestation. These areas so planted to trees would then become splendid recreational ground for the nearby towns and would also constitute a refuge for birds and other wild life.

Petrified Forest Discovered in Texas

What is pronounced to be the most marvelous petrified forest known to man, has just been discovered in Texas by two geologists, Dr. C. O. Gaither and Professor S. I. Cade, according to the New York Zoological Society Bulletin. It is situated in an almost inaccessible valley of the Big Bend region of Texas, nearly 100 miles from the nearest railroad.

Dr. Gaither and Professor Cade state that they found tree trunks standing to a height of 100 to 150 feet, and also many great trunks of trees lying prostrate, of a size unparalleled in the world, both in diameter and length. One tree trunk measured 896 feet in length. The upright trunks are so large that they appear from a distance to be great symmetrical columns of natural rock.

Few white persons have visited this distant valley which is split by a deep arroyo leading into the Rio Grande. A thick layer of volcanic ashes and pumice stone cover the surface, which evidently came from a peak in the neighboring Chisos Mountains. Since the prostrate trunks are partly covered with ashes, it is evident that this volcanic eruption occurred long after the forest passed into its present petrified state.

Blister Rust Meeting

The Twelfth Annual Blister Rust Control Conference met in Albany, New York, on December 9 and 10.

Conservation Commissioner Alexander MacDonald made the address of welcome at the opening of the first day's meeting. Among the interesting papers read were "Progress of Blister Rust Control Work in the Northeastern States," by E. C. Filler, Federal Supervisor; "Practical Lessons From Blister Rust History," by Dr. L. H. Pennington, New York State College of Forestry; and "Forest Management by Private Owners in the Adirondacks," by Prof. A. B. Recknagel of the New York State College of Agriculture.

California Honors Trees

What is said to be both the oldest and the largest orange tree in California, planted seventy years ago at Bidwell Bar, near Oroville, is to be honored by a monument and the holding of a celebration.

This tree was set out when California was highly excited over the second major gold strike. As high as one dollar each for the oranges was paid by the miners who took the seeds away with them and planted them all over the state. It is stated that the mother tree has never had a crop failure and that it is healthy and vigorous today.

Tennessee Has "Fire-Less" Weather

Not a single forest fire occurred in Tennessee during the month of October, according to information received from the Tennessee Division of Forestry. Credit for this is given to the weather. Frequent rains and mild weather enabled vegetation in the forests to retain its life up to an unusually late date. All indications now point to a brief fire season, if the winter rains start at the usual time.

Electricity Has New Use

A bulletin which described a new electrical apparatus and a new method for finding the amount of moisture in lumber during the process of drying that may be applied to the operation of dry kilns, has just been published.

This discovery has been worked out by J. E. Meyer and L. W. Rees, of the New York State College of Forestry, Syracuse University, and D. P. Randal, of the physics department of the University. Mr. Rees tells the story of the invention and research that lead to this new development in the bulletin, "The Electrical Resistance of Wood With Special Reference to the Fiber Saturation Point." This is being distributed on request, free of charge, by the college.

LUTTON V-BAR GREENHOUSES

Built for F. A. FLOOD, Brookline, Mass.

How does this appeal to you?

It's a delightful little conservatory, ingeniously combined with a garage. One heating plant does for both. A modest glass enclosure like this makes an ideal place for the growing of plants to be used in decorating your home.

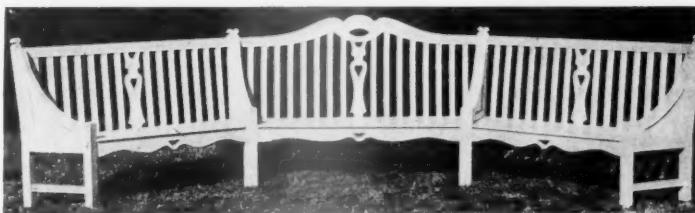
Why not consult a Lutton designer, or your own architect, about a greenhouse that will exactly meet your desires? At least, let us send you our illustrated book, "Greenhouses of Quality," which gives many practical suggestions.

The first cost of a durable Lutton Greenhouse is spread over many joy-filled years.

ASK A LUTTON OWNER

BWR
TRADE MARK
GREEN HOUSES
PAT. JAN. 2, 1917

Wm. H. LUTTON COMPANY, INC.
261 Kearney Ave., Jersey City, N. J.



For information about the above and many other beautiful garden benches and garden ornaments address the

NORTH SHORE FERNERIES CO.

BEVERLY
MASSACHUSETTS

FOREST FRIENDS

BY H. R. EVANS

Refreshing tales from the North Woods. Vivid, intimate stories of Animals, Birds, and Fish from the valleys of the Pacific Coast by one who has spent six years among the scenes of which he writes. Fifteen full-page illustrations from original photographs. A splendid Gift-book for young or old. **\$1.50 net.**

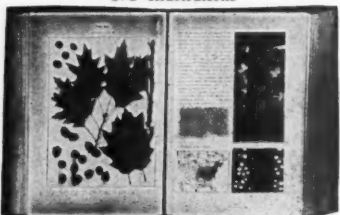
Other Animal Books
BEAUTIFUL JOE, by Marshall Saunders. The Autobiography of a Dog. (More than a million sold.) Illustrated Gift-book Edition. **\$1.50 net.**
ANIMAL LAND, by Willard A. Cold. Three hundred true stories of animals. Illustrated Gift-book. **\$1.50 net.**

AT ALL BOOKSTORES OR
The Judson Press

1701-1703 Chestnut Street PHILADELPHIA, PA.

HOUGH'S HANDBOOK OF TREES

891 Illustrations

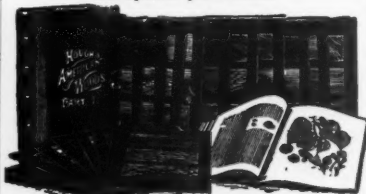


"Its illustrations almost carry the scent and touch of the original."—*New York Times*. Enables one to identify all of the trees east of the Rocky Mountains and north of the Gulf States at any season of the year.

\$8 and \$10, according to binding

HOUGH'S AMERICAN WOODS

25 Species per Volume



"These Books are Gems and worth far more than you ask for them."—*Luther Burbank*.

Illustrated by actual specimens, showing the end, "quarter," and "flat" grains of each wood. Text tells uses, properties, distributions; 13 volumes, each showing 25 species, \$7.50 and \$10 per volume, according to binding.

Mounts of Woods for
LANTERN AND MICROSCOPE.
LANTERN VIEWS OF TREES, ETC.
ROMEYNE B. HOUGH COMPANY, Lowell, N. Y.

Trim Your Trees Yourself

It's easy if you use a **Bartlett Jointed Tree Trimmer** with a compound lever. **Saves** cost of buying several trimmers of different lengths. Prices F.O.B. Detroit. 8 ft. (2 sections) **\$6.00**; 12 ft. (3 sections) **\$7.40**; 16 ft. (4 sections) **\$8.20**. **BARTLETT MANUFACTURING CO.**
 419 E. Lafayette Ave., Detroit, Mich.

Western Forestry Association Holds Annual Meeting in Victoria

Forest fires—common enemy of foresters, lumbermen and the public—ran uppermost through the discussion of the Western Forestry and Conservation Association, which closed a four-day meeting at Victoria, B. C., on December 9.

Every angle of the problem was discussed, weak links in present protection systems were analyzed and dissected and plans projected for better methods of fire prevention and suppression.

The meeting brought together lumbermen and foresters from all sections of the West, including British Columbia, and was outstanding for its intimate and informal consideration of specific problems vital to western forestry and lumbering. Ovid M. Butler represented The American Forestry Association. The range of subjects included fire organization and methods, reforestation, forest research, fire problems of the logging camps, slash disposal, timber insurance, legislation, insects and diseases, forest fire publicity.

In his annual address, A. W. Laird, of Potlatch, Idaho, president of the Association stressed the importance of the Clarke-McNary law as a fire protective factor. "There is not a man here who believes we have the fire problem whipped," declared Mr. Laird. "The past year, especially in Idaho and Washington, has again taught the lesson California had in 1924: that excellent as is our organization to meet the normal hazard, it meets serious difficulties when careless man and abnormal weather combine to make conditions as bad as they can for us. We came through with great credit. Losses were trifling compared with what was at stake and with what would have happened without our protective organizations. But we shall not continue to deserve this credit unless we also use every lesson to do better yet next time. To reduce the number of fires to be dealt with, and to have better emergency organization, is the responsibility not only of each agency represented here but also of cooperative preparation to unite forces to the same

"And I want to emphasize that as far as the United States is concerned, it is one more reason for realizing the importance of the Clarke-McNary law as a national policy. With our triple division into private, state and federal responsibilities, and these considerably re-divided, the whole fabric of forest protection and production depends for its strength on the interweaving this law recognizes and provides for.

"The great importance of the Clarke-McNary law in this respect, and therefore of its support financial and otherwise by each agency in equitable proportion, is far from adequately realized. It is our national forest policy, expressed by Congress after long years of agitation and controversy. A group of us had to go to Washington recently to show the several execu-

tive departments, from the President down, that in skimping provision for national forest protection, public domain protection, weather forecasts, and even the cooperation imposed by the law itself, the Government has been doing less than any of the rest of us—on this coast at least—and so defeating its own aim."

Reduction of fire hazard by more education and by far more vigorous and systematized law enforcement; handling of slash hazard as an individual operating problem; thorough protection of reforestation areas; the taxation problem; forest insurance; reproduction and growth habits of our tree species, and insect and disease control are other problems which Mr. Laird said must be faced and solved if perpetuation of the western forests is to be accomplished.

At the close of the meeting, a resolution was passed calling upon Congress to uphold the Federal Government's responsibilities under the Clarke-McNary law by providing appropriations sufficient to enable it to meet its share of expenditures for cooperative fire protection and suppression. A demand was also made that the Federal Government provide some degree of fire protection for the Public Domain. Other resolutions called for more accurate reporting of forest fires, continuation of aerial patrol, better law enforcement relating to the starting of forest fires, extension of efforts to provide timber insurance, protection of the forests from insects and diseases.

A. W. Laird was re-elected President and C. S. Chapman, of Tacoma, Secretary-Treasurer.

Parasite of Gipsy Moth Attacks Many Other Hosts

Fear is sometimes expressed that the importation of insect parasites for the purpose of controlling dangerous foreign insects in this country will change or upset the natural balance already existing here. There is no foundation for such fear, if the effect of one important parasite which has been studied in that relation can be taken as an indication of all others, says the United States Department of Agriculture.

Among the many parasites imported and established for control of the gipsy moth and the brown-tail moth is a tachinid fly, which has become well established. Eight years of study of this parasite by the department entomologists have failed to indicate anything detrimental to the welfare of native parasites by its introduction and establishment, except an occasional scarcity of host material, brought about by its successful work. This scarcity of host material does not appear to be of enough importance, however, to materially change or upset the natural balance already existing.

Furthermore, from data obtained in this study and from what can be surmised, it seems very clear that the addi-

tion of this parasite to the fauna of this country has been of great benefit. It has been found to attack no less than 92 species of native injurious insects other than those for which it was intended, and it has so thoroughly established itself in New England that it is now able to act as automatically as any native species whose mission is that of a controlling agent.

Rabbits That Bark

Under this rather startling title the Missouri Botanical Garden Bulletin has much to say concerning the damage to young trees and shrubs by rabbits.

Rabbits are known to damage young trees and shrubs every year, the amount of damage varying from season to season with the weather and the number of rabbits. Due to the grading of a tract of land at the Garden which formerly was covered with farm crops and low brush, the wild life has been forced into the main garden. While the actual number of rabbits is not very great, they have been doing considerable damage. Experimental plots of winter wheat have been cut to the ground, and during the recent cold spell many ornamental plants were damaged. On account of the negligible amount of snow in recent years, traps are almost useless, since rabbits cannot be tracked.

What should be done to plants injured by rabbits? If properly taken care of, most wounds will heal by callousing. In the case of shrubs the damaged wood can be removed if the injury is not too general, but trees that have one main trunk must be treated. Damage is sometimes confined only to one side of the trunk, and in such instances the remaining uninjured tissue is sufficient for the sap to flow through. The frayed edges in wounds of this sort should be cut to a smooth edge and the entire wound covered over with grafting wax, or wax and cloth, to exclude moisture and prevent fungus spores from entering. The cloth also prevents the wound from drying out in extremely hot weather. The wax is prepared by heating in a vessel one part tallow, two parts beeswax, and four parts rosin. When melted, the mixture is poured into cold water and then pulled until it assumes a light cream color. Occasional greasing of the hands while pulling will prevent the wax from sticking.

When the number of ornamental plants on a place is not very great and the damage by rabbits and mice is anticipated, it is well to place some wire netting, to a height of about eighteen inches, about the stems of such plants.

And It Snowed 7 M B M!

A novel use of wood is being sought. Experiments have been started at the G. & W. Refrigerator Company's plant at Cloquet, Minnesota, seeking to make artificial snow for movie studios out of

EVERGREENS FOR SCREENS AND HEDGES

Unprecedented Bargains in Quantity



Solid protection—Winter and Summer

IN WINTER when the winds are coldest and protection most needed—when undesirable views are bleakest and a screen most necessary—the hedge of privet, or poplars or other deciduous material is bare and almost useless. Evergreen trees are dense and thick winter as well as summer.

They are not always expensive—we can offer healthy, well transplanted trees, in hedges of *double* thickness at exceptionally low prices. For example:

Douglas Fir	1	to 1½ feet high, 11c per ft. of hedge
Scotch Pine	2	to 3 feet high, 10c per ft. of hedge
White Spruce	1½	to 2 feet high, 25c per ft. of hedge

For further information write us

AND MOREOVER, we have hundreds of thousands of young evergreens in seedling and small transplanted grades as low as \$10 per thousand, for reforestation purposes—ALSO at equally low prices a complete stock of larger trees and shrubs for immediate effect, in all kinds, varieties and sizes.

All inquiries will receive prompt and courteous attention

KELSEY NURSERY SERVICE

Fifty Church Street, New York City

GAME AND FISH DEPEND ON FORESTS AND STREAMS. BOTH ARE DESTROYED BY FIRE. PREVENT FIRES AND SAVE OUR WILDLIFE.

ALLING DAHLIAS

Have for many years been consistent prize winners at the leading Eastern Dahlia Exhibitions.

Our 1927 Catalogue

Describes these prize winning varieties as well as many of the older favorite standard kinds.

May We Send You a Copy?

C. LOUIS ALLING
Dahlia Specialist

280 Court Street, West Haven, Conn.

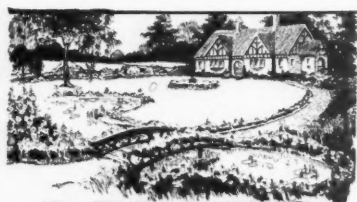
European Novelties

Seeds and Plants including fine strains of ENGLISH DELPHINIUMS from noted growers

500 Seed Delphiniums Kelways famous Exhibition strain.....	\$1.00
500 Seed Delphiniums Cliveden Beauty, The improved Belladonna.....	1.00
100 each Seed Delphiniums of five named Kelway Delphiniums.....	2.50
500 Seed Delphiniums in 3 English var. pale blue.....	1.50
500 Seed Delphiniums in 3 English var. dark blue.....	1.50

Any of the above in strong seedlings for May delivery \$2 per 25; \$7 per 100. Send for our list of new and better varieties

BROOK-IN-WOOD GARDENS
Beverly, Mass.



DREER'S GARDEN BOOK

Now is the time to plan your garden. Dreer's Garden Book not only helps you decide which Flowers and Vegetables you want, but tells you how to have success with them. The 1927 edition lists everything worth while in Seeds, Plants and Bulbs, with numerous illustrations.

A copy mailed free if you mention
AMERICAN FORESTS AND FOREST LIFE

HENRY A. DREER

1306 Spring Garden Street
Philadelphia, Pa.

A Box of Bulbs for the Garden Lover

30 fine Glad bulbs, assorted colors, or
20 fine varieties, all labeled **ONLY \$1.00**
Postpaid.

Ask for special list ready soon
Peonies and Irises in season
E. M. BUECHLY
Dept. B, Greenville, O.

GLADIOLI IRIS DAHLIAS

Reliable postpaid offers, a surprise in beautiful colors and varieties, satisfaction and big bloom guaranteed.

Gladioli—50 Fine Bulbs.....\$1.00
Iris—10 in Colors of the Rainbow.....1.00
Dahlias—Four Superb Varieties.....1.00

FREE very interesting and helpful Catalog of Spring and Summer Flowers.
I.X.L. Gardens, Sun Prairie, Wisconsin

BULB CATALOGUES

NEW CREATIONS IN GLADIOLI

Including our famous variety the "cut and come again"

GLADIOLUS LOS ANGELES

The nearest everblooming gladiolus, contains also newest and best varieties of Iris, Amaryllis, Crinums, Cannas, etc.

BULBS FOR FALL PLANTING

Tulips, Daffodils, Colored Freesias, etc.
C. E. HOUDYSHEL, Box 1 FL, San Dimas, Calif.

FOR ONE DOLLAR

we will send you, post paid in the U. S. Two dozen Gladioli, blooming size; or One Dozen Dahlias; or One dozen Hardy Phlox; or One dozen Iris; or One dozen Hardy Perennials. Six varieties of each, our selection, all named and choice.

Any two for \$1.75, any three for \$2.50, any four for \$3.75; any five for \$4.00.
Payment with order. Order now for the spring delivery.

THE GRINNELL NURSERY, Grinnell, Iowa

"BULBS"

Mt. Hood Lily—\$5.00 per doz.

(Washingtonianum)

Camas (esculenta)—\$2.50 per doz.

from Oregon

ALFRED A. LOEB

8509 Division St. Portland, Oregon
Native Plants and Shrubs

waste shavings. At this plant, sixty carloads of shavings are said to be burned as waste material each month, and for some time efforts have been made to utilize them without success. The recent discovery that bleached corn-flakes turned out by a Minneapolis milling company had proved highly successful by the studios as artificial snow, inspired the Cloquet Company to experiment with shavings.

Plant A Barn

We used to grow on our own hills,
The boards to make our floors and sills,
But now-a-days we bring them on
From Arkansas and Oregon.
Looks like the sons of me and you
Must import wood from Timbuctoo
If they would build a house and stoop,
A cowbarn and a chicken coop.
To right the wrong while yet we can,
Our forestry extension man
Has got a slogan and a plan.
He's pondered long upon the question
And "Plant a Barn" is his suggestion.
If you start little trees today
Your son will see them on the way,
And your son's son may house his hay.
Two acres pine will see him through it,
One and a half will likely do it.
Your farm has got some rugged spot
That you could use as well as not.
But let us plant a little more
To build a house, roof, walls and floor,
And make that other needed shack,
A little off and somewhat back—
Although I hope in days a-coming
The farmer folk will all have plumbing.
O I am stirred, by thoughts like these,
I'll bend my back, I'll bend my knees,
I'll set a lot of little trees,
I'll crown the hill with noble pine
To help my grandson house his kine,
That he may have upon his barnsite
A better building by a darn sight.

—Bob Adams in *Syracuse Forestry News-Letter*

The Melancholy Pine

"John C. French, the Northern Pennsylvania poet and naturalist, has often said that he gained much inspiration seated beneath the dark, overhanging branches of a huge white pine which stands in front of his Potter County home," writes Henry W. Shoemaker in the Altoona Tribune. "A session under the venerable pine usually evoked a series of brilliant fancies, which will live in the history and folklore of the Keystone State. The German foresters two centuries ago coined a very clever, as well as a feeling, name for the white pine, which tree was introduced into the Rhineland early in the Eighteenth Century. They called it the Wehmuth's-Kiefer, or "melancholy pine." Sad though the white pines seem in Pennsylvania, which the Indians always claimed held the imprisoned spirits of rebellious war-chiefs, those which have been grown in Europe are still sadder in mien, and the dirge is

ever sougning through their branches. The writer will never forget the group of American white pines that stand on Isola Bella, in Lago Maggiore, in Italy, which were planted from seeds brought by a returned Italian traveler about 1825. It is the story of the gardeners at that enchanted isle that the birds are afraid to rest on these trees, as they keep up such a mournful wailing that they fill with unquiet the hearts of the birds. The wood of white pines grown in Europe is shaky, and not of good quality, and it seems as if this tree will only thrive and grow to its fullest maturity on American soil. One of the tallest original grown white pines in Pennsylvania can be seen in Chadwick's Gap, near the village of Eastville, Clinton county. It rears its dark head two hundred feet in the air, and surveys Sugar Valley with a proud defiance and dignity, although almost the last of its race."

New York Forestry Association Meets

For the purpose of undertaking the solution of four outstanding problems connected with municipally-owned trees and forests, the New York State Forestry Association held a conference at Albany on December 6.

Elimination of insects which affect shade and ornamental trees; proper development and use of municipal parks; planting and care of trees in public places, and the forestation of municipally-owned lands were the subjects upon which the discussions were centered.

Professor Nelson C. Brown, State College of Forestry, Syracuse University, presided at the morning session and Professor Ralph S. Hosmer, State College of Agriculture, Cornell University, at the afternoon session.

Satin Moth Quarantine Revised

The revised satin moth quarantine which was approved on October 30, by the Secretary of Agriculture, became effective November 15. The quarantined area was enlarged to include for the first time territory in Connecticut as well as additional territory in Massachusetts, Rhode Island, Maine and New Hampshire. It was not deemed necessary to extend the area in the State of Washington.

Logging on the Mississippi

Large quantities of logs which sank while en route to the lumber mills in the days of intensive lumber activities, are now being recovered by marine logging operators, from the Mississippi above Minneapolis, according to an article in the *American Lumberman*. A floating grappling machine is used.

More than 6,000 logs have been removed this season which are expected to produce 300,000 feet of lumber when sawing begins next spring. Logging will then be resumed, when shifting sands will probably expose more long-buried logs.



A SAFE INVESTMENT

A limited number of pairs offered, we to ranch them on shares for one, two and three years.

THERE IS MONEY IN BEAVERS
We own and operate the largest and only modern Beaver farm in the world. Our clients are in all parts of the United States and abroad.

Write for our sales plans and prices

NORTH AMERICAN BEAVER RANCH

SYLVAN

MINN.

BIRD FILLING STATIONS

Patented July 13, 1926



Feed the birds NOW and help them through the winter.

—AUTOMATIC—
Suet always clean and accessible to last particle.

No. 1, price \$1.25

No. 1 to hang from tree or bracket.

For smallest home or largest estate. Every home should have several.

Postage paid in U.S.



No. 2, price \$1.00

For window casings, porch columns, etc.

LEWIS P. KELLY, R. F. D. 4, Dept. A, Peoria, Ill.



BOB WHITE QUAIL

(Our own American Bob)
For restocking purposes only. Delivery February, March and April. Price \$2.00 each evenly paired. Order now, supply limited. Minimum order 12 pairs.

M. E. BOGLE, 510 East Elmira, San Antonio, Texas
Largest quail raiser in the world.



Mounted Ringneck Pheasant Cocks, also Mounted Game and Fancy Pheasants.

Ringneck Pheasants for breeding and stocking, Mongolian, Silver, Golden, Lady Amhurst and Reeves Pheasants, Water Fowls, eggs in spring. Illustrated Circular 10 cents.

Indianfield Pheasantry
Telford, Penna.

Attract Wild Ducks

They always stop where they find good feeding grounds. Plant foods they like. Wild Rice—Duck Potato—35 other varieties. Used with wide success. Descriptive literature, 31 years experience. Help with planting problems free. Write TERRELL'S AQUATIC FARM 16 W. Blk., Oshkosh, Wisconsin



If you do not find what you want advertised in

AMERICAN FORESTS AND FOREST LIFE

Write to Service Department
The American Forestry Association
Washington, D. C.

Bringing Back the Beaver

(Continued from page 20)

enamel paint, preferably dull gray in color, to prevent rusting. Allow no part of the trap to be above water when set. See that the inner end of the upper arm of the spring is always free from the netting, and that the netting itself is not imbedded in the mud nor entangled with sticks or snags. Set the trap from the water side, using wading boots—and a boat if necessary—but keeping off the banks as much as possible.

Handling the Beaver

It is best to carry the trap ashore before attempting to remove the imprisoned beaver. In effecting its release and transfer to a crate or sack the trapper should have at hand a net for emergencies. Such a net is made by fastening an iron or hoop, about twenty inches in diameter, to a stout handle and using ordinary poultry netting for the bag. By exercising proper caution the beaver may be grasped by the tail and hind leg, lifted from the trap, and placed in the crate. The animal may be injured if handled by the tail alone. If it is not practicable to bring the crates close to the scene of trapping operations, a beaver may be safely transported any reasonable distance in a gunny-bag carried over the trapper's shoulder, or in a pocket of poultry netting slung on light poles.

When beavers must be kept on hand for several days before shipment or release, it is necessary, in summer, to put the cages in a cool, shady place and to supply the animals with plenty of fresh drinking water. The younger beavers may be given a daily bath by lowering them into the stream in the net described above. This gives them an opportunity also to discharge the faeces, an act ordinarily accomplished in the water. The captive beavers should be given green sticks of the kinds they are naturally peeling for food, or supplied with bread, carrots, sweet potatoes, or green corn in the ear—all of which they seem to greatly relish. The cages or crates must be kept clean and bedded down with absorbent litter of some sort, as the young beavers particularly are likely to perish under insanitary conditions.

Shipping the Beavers

If well handled in the field and properly equipped for their journey, beavers may be safely shipped by express entirely across the continent. In experimental shipments from the State of Washington to Pennsylvania it was found that the safest and most economical plan was to use crates only large enough to accommodate a single beaver. These crates should be light and strong, well ventilated, and need not be over thirty inches long by eighteen inches wide and high. Certain types of baskets



BUY THE BEST

Pedigreed Chow, Airedale, Police, Wire Hair Fox Terrier, Great Dane, Collies

If you own a dog send for "Booklet on Care" postpaid 50c. We welcome you to write us about pups.

MAPLEWOOD KENNELS, Box 3, Medway, Mass

IRISH TERRIERS

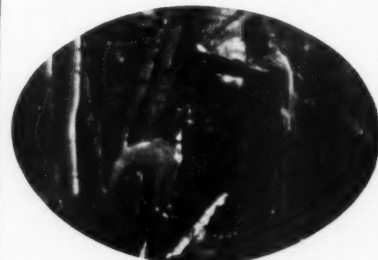
Have good dispositions; Make Ideal House and Auto Dogs; Love to Hunt and are devoted Companions. Handy size. Immune to most diseases.

A.K.C. Registration Guaranteed

DR. F. G. DRATZ

Hardrock Kennels

Missoula, Mont.



Out of the Mail Bag

"I am in the market for a Boston Terrier. Can you give me information as to where I can get one around \$40?"

"I am writing to request such information as you may give me on Sealyham Terriers, their characteristics, and their proper care. Any enlightenment you may give me will be very greatly appreciated."

"I am looking for a Pit Bull Terrier. Can you tell me where I can purchase one?"

"I want an Airedale pup, male, in time for Christmas delivery. Will you be so good as to advise me where to purchase?"

The above are only samples of the inquiries received by us.

ASK ABOUT RECOGNIZED BREEDERS

The Kennel Department answers all questions about dogs—without charge.

Kennel Department,
AMERICAN FORESTS AND
FOREST LIFE
Washington, D. C.

Wausau Foxes

What does "Quality Foxes" mean to you? If it means quality in fur production, quality in reproduction, quality in prolificacy—then you want Wausau Foxes with an enviable national show record. 75% of 70 foxes shown are winners.

Write us for further information or visit our ranch for comparison.

Wausau Silver Black Fox Ranch, Inc.
WAUSAU, WISCONSIN

Tarnedge Foxes

Established 1910

A PRIZE WINNING RANCH

35 Pairs of Breeders
31 Pairs of Prize Winners

Grand Show Champions
Sweepstake Winners
Blue Ribbon Winners

The Oldest Ranch in the U.S.

Catalogue
SABATTIS, N. Y.

ALASKA SILVER FOX FARMS

Highest grade, pure bred, registered, interior Alaska strain. 3 ranches

STERLING SILVER FOXES
Values Backed by Rigid Culling and High Pelt Sales Since 1913
The Kind With the Pelt That Pays

ALASKA SILVER FOX FARMS
Lake Placid, N. Y.

BOONVILLE Superior FOXES

are recognized by the best trade for the highest degree of quality and type—which is the foundation of profits in the Silver Fox business.

You are invited to visit our ranches

Central New York Fur Co., Inc.
BOONVILLE, N. Y.



A fox puppy—as cunning as ever a young dog could be
(Courtesy Dr. Wadsworth)

Your 1927 Profits Depend Upon Your Plans

If you have a farm or suitable suburban place you can raise Foxes.

The same effort that you give to chickens or pigs will produce *real profits* with Foxes.

To enable you to study the business properly let us send you without cost, the following:

A. The U. S. Government Guide (Bulletin 1151) to Fox Raising.

B. The Story of the Fox Raising Profits since 1880.

C. The Story of three ladies who made \$25,000 in Foxes.

D. The Story of the man who planted a little forest on his acre of open ground for Foxes.

E. The Story of a man who took his Foxes to the real forest.

This and other information is sent free to enable you to consider Foxes in your 1927 plans—for profits and pleasure in making 1927 count.

Send a postal card and we will send you some interesting material about Foxes. Address: **Manager SILVER FOX BREEDERS' BUREAU**, Box 426, Pleasantville, N. Y.



BORESTONE

—the blue-ribbon strain that won the Grand Show Championship for the sixth time at the recent National Fox Show in Portland. Ranches in Maine and California. Send for booklet.

Borestone Mt. Fox Co.
621 PACIFIC-SOUTHWEST BUILDING
PASADENA, CALIF.

SHERBORN FOXES

In addition to the pleasure and profit derived from raising Silver Black Foxes, an added attraction can be had by using part of the ranch for the growing of beautiful trees and shrubs.

On my ranch at Sherborn Mass., I have fifty-four different kinds of trees and flowering shrubs, which makes a handsome setting for my choice collection of Silver Foxes.

SAMUEL F. WADSWORTH, M.D.V.
26 Cumington St. Boston, Mass.

Murray Fox Farm

TRAVERSE CITY, MICH.

Murray Foxes have won the highest Honors in American National Shows including a

**GRAND SWEEPSTAKES
Champion**

Our Booklet "BLOOD WILL TELL" is yours upon request

Build up a Quality Fox Ranch by using these two principles

Know your Fox by selecting the highest quality scientifically bred foundation stock.

Know your Dealer from whom you buy to be one of business integrity in breeding.

We Offer You Both

O'Reilly Fox Ranch
Merrill Wisconsin

or crates used by wholesale bakers for shipping bread answer the requirements very fully. They must be lined with hail screen and have sections of the woodwork in the ends cut out for ventilation. Sheet tin may be used instead of the screen for the lining of the lid and the two longer sides. Care must be taken that there are no sharp edges or points on which the beaver might injure its eyes. Neglect of this precaution has, in several cases, resulted in the animals being wholly or partially blinded.

A drinking vessel must be securely fastened in one of the corners of the crate, preferably a little above the litter on the floor. Just above this vessel a small hole should be bored in the top of the crate for the insertion of a funnel for watering.

In addition to the food given the beaver on the start, an extra supply should be enclosed in a sack attached to the crate. Directions for feeding and watering must

always accompany the shipment. At the receiving station it is well to have an enclosure, with swimming pool, where the beavers may recuperate if they show exhaustion or are to be reshipped any considerable distance.

When stocked in new sections the beavers should ordinarily be liberated in deep pools, where one bank or the other is high enough for the construction of temporary burrows. To increase the chances of the animal's remaining where it is placed, it would be well to release it in an artificial shelter on the edge of the bank, to which it may return at will. A small supply of green sticks or other suitable food should be left nearby as a further inducement to taking up residence.

Suitable Roadside Trees

Because species of the oak tree are native to nearly all parts of the country, this tree is more generally useful for road-

side planting than any other kind, according to Farmers' Bulletin 1482-F, which may be obtained from the U. S. Department of Agriculture, Washington, D. C.

The next tree in importance for a large portion of the country is the maple, although care must be used in the selection of species.

Green ash, hackberry, thornless honey locust, black locust and poplars are very desirable trees to plant in the cooler, dry regions, while for extremes of cold and drought it is more advisable to plant box-elder, poplar and willow trees. Eucalypts, gums, palms, Jerusalem thorn, and mesquite are most adaptable for use in warm, dry climates.

Successful roadside planting depends on the proper location of the plants along the highway, the selection of suitable varieties and adequately protecting them from thoughtless persons, roving stock and insects and diseases.

The best that can be made
BEAN'S MAINE SNOW-SHOE
 The frames are of selected Maine second growth white ash, seasoned so they cannot warp. The best cowhide cured by a secret process to prevent sagging, is the filler. Finest workmanship and care give them perfect balance.
Men's \$9.75—Ladies' \$9.50
 Wool tassels 60c extra. Initials on toe bar 60c extra. Give me your weight in ordering. I will select the proper shoe. Delivered free in U. S. If you are not completely satisfied we will refund your money.
 Write for Catalog
 L.L. BEAN, 919 Main St., Freeport, Me.



ROBIN HOOD
 Would have liked this catalog! SEND FOR COPY.
 Bows-Arrows-Raw Materials
 L.E. Stiemler—Queens Village, L.I.-N.Y.
 DEPT. K



25-Power POCKET MICROSCOPE \$1
 Something new; size resembles metal-pencil with pocket clip. Pay after testing; costs 15c to return from any part of U. S. We carry everything in fieldglasses from \$4 up; sent on approval.
J. ALDEN LORING
 Box S, Owego, Tloga Co., N. Y.

NEW METHOD Self-Starting POCKET LIGHTER
What Makes It Light
 Prevents Forest Fires
 No wind can blow it out. Beats carrying matches. Just the thing for sportsmen. Fully guaranteed. **50c**
 Triple Gold or Silver Plated \$1.00
NEW METHOD MFG. CO.
 Dept. F.L.-12 Bradford, Penn.
 Dealers—Ask your jobber for this ready seller



OUTFITS ENGINEERS, EXPLORERS, CAMPERS
FIALA Patent Sleeping Bags—The only scientifically correct bag made. Weight about 5 lbs. **\$25**
FIALA .22-cal. Combination Rifle and Pistol—High-grade; 3 barrels; a \$30 rifle for **\$18**
MIRAKEL Vest Pocket 5 X Prism Binoculars; genuine Jena; weight 5 oz. with case. **\$25**
Hunters, Travelers, Engineers Compass; luminous; floating dial set on jewel point. **\$3.38**
 Write for Catalog No. 6

FIALA OUTFITS INC.
 25 WAREHSE, NEW YORK

CAMERAS—FIELD GLASSES



A complete file on out-of-doors supplies kept here for your use. Write Service Department.

AMERICAN FORESTS AND FOREST LIFE

UNREST

Sometimes, these wooded hills I hold so dear,
 Seem by their very nearness to oppress,
 And fleecy clouds that hover o'er me here,
 Can, by their friendly closeness, cease to bless.
 And then I long for prairies wide and free,
 An open space where naught the vision bars,
 The sky, by day blue as the summer sea,
 By night, a velvet black with gleaming stars.

The breezes here are freighted with perfumes
 Of spicy pines and honeysuckle sweet,
 And all the roadside is a mass of blooms
 That grow in rainbow riot at my feet.
 I love these hills, their trees and trailing vines,
 The woody odors and the misty rains,
 Yet there are times my restless spirit pines
 For the vast freedom of the western plains.

—Georgia S. Couch.

Mississippi Forestry Commission Issues Arbor Day Booklet

The Mississippi Commission of Forestry has just issued as its Bulletin No. 1, an Arbor Day booklet, which aims to lead back to the idea of Hon. Sterling Morton, who instituted Arbor Day in 1872.

The frontispiece of the booklet is a photograph of a scene in a southern pine forest, one of the few remaining in virgin beauty and excellence. An inset bears the foreword of the State Superintendent of Education:

"That our national prosperity may be dependent upon the perpetuation of our forests, that our esthetic and spiritual natures are inspired and nurtured by these, 'God's first temples,' may not be clearly recognized till per chance they are gone. Let us therefore create and cultivate a forest consciousness in the minds of our people, to the end that they may hold for all time the priceless heritage which the Good God has vouchsafed to us."

Ways of celebrating Arbor Day and a suggested program for the observance are given. Suggestions for suitable trees to plant in Mississippi give the characteristics, requirements, and uses of the species. A set of "Forestry Facts" applicable to Mississippi conditions follow, and there is an "Afterword" by Mrs. G. H. Reeves, State Chairman of Conservation, Federation of Women's Clubs, who has for years been identified with conservation work in the State and is a member of the Forestry Commission.

State Forester Roy L. Hogue, whose

name it bears, hopes that this booklet will be an educational factor to bring to every Mississippian an intimation of the "forest consciousness" which it is one of his important duties to foster in the State.

The booklet itself was arranged by a former member of the U. S. Forest Service, Mrs. D. Priscilla Edgerton, now State Supervisor of Forestry Education in the State.

New York Makes Reforestation Record

More than 20,000,000 forest trees have been planted in the State of New York during 1926. This figure exceeds the combined plantings of the two previous years, and more than equals the aggregate plantings made from 1901 to 1914, the first fourteen years of the reforestation movement. This interesting information is contained in the annual report to the legislature made by Conservation Commissioner Alexander Macdonald.

The output of trees distributed from state nurseries was practically doubled this year over last, and over 80,000,000 young trees are now on hand.

About one quarter of the planting total for 1926 was done by the State and the rest by industrial concerns, municipalities, schools and private individuals. The number of community forests has increased over fifty per cent since their start.

Redwood Yields Tannin

The reddish heartwood of California redwood contains tannic acid in such amounts that Professor Emanuel Fritz of the Division of Forestry of the University of California believes it should be an important source of tanning materials and is deserving of the consideration of the tanning and leather industries.

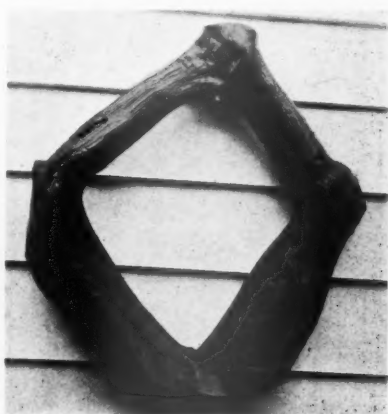
The tannin content of redwood has been investigated in several laboratories and the reports indicate it to yield in some cases as much as 7 and 8 per cent of tannic acid, one investigator reporting over 12 per cent. Although this tannin content does not compare so well with the tannin content of California tan bark oak, which is at present the mainstay of California's tanning industry, the professor believes that the greater availability of redwood to a great extent offsets this deficiency. The tan bark oak, while still sufficient to last well over a decade, is certain to become so diminished in supply that the tanners soon must look elsewhere for their future supplies of raw material.

In logging and milling redwood the waste is enormous; at a number of mills there is daily being burned up mill waste amounting to from 25 to 50 cords, depending upon the size of the mill. Much of this is heartwood. In the woods an even greater amount is left because the lumbermen can find no profitable use for it. The waste in the woods should be even more desirable than the mill waste for tannic acid, because much of it is

branch wood and other heavy wood that yields a greater percentage of tannic acid than the lighter wood. Should the tannic acid from redwood prove to be as suitable for tanning hides as are the tannins now used, the redwood region may expect an additional return from timbered lands not now figured on.

The fact that redwood waste is available in such very large quantities and is easier to collect than the oak bark now used should be important factors in making it attractive to tanners when the supplies of oak are further diminished. Tannin is rather common in many plants, but too often a plant abundantly supplied with the acid is too expensive to harvest. In the case of redwood, however, Professor Fritz says this should not be the case.

Natural Picture Frame



TO go out into the woods and chop down a tree with a picture frame growing on it was one man's experience at Lake Forest, Illinois. The frame as shown in the accompanying photograph was found growing on an oak tree. It has not been altered in any way excepting that the bark was removed and the frame given a coat of varnish.—W. F. Hild.

Page Sherlock Holmes

A suspect in a recent alcohol theft at the University of Wisconsin was vindicated through the efforts of the wood technologists of the Forest Products Laboratory.

Several holes had been bored in the door of a storeroom in the chemistry building by thieves who unfastened the latch and departed with a considerable amount of alcohol. University officials, investigating the theft, submitted an auger bit with borings clinging to it to the wood identification office, together with a sample of wood from the broken door. Under the microscope the door samples were found to be birch while the borings were maple, thus clearing the user of the bit of implication in the crime.

An Answer to "What Will We Do For Pencils?"

In a recent letter to the Editor, C. Stowell Smith, Secretary-Manager of the California White & Sugar Pine Manufacturers Association, commenting on the article appearing in the November issue entitled, "What Will We Do for Pencils?" by R. K. Helphenstine, Jr., writes: "I do not know the total amount of cedar which is going into pencils in the United States, but I do know that we have had three factories operating in California on this species, (incense cedar, etc.), producing pencil slats not only for domestic trade, but also for export. Two of these are owned by the Eagle and American Pencil Companies.

"I just looked over our last annual report and found that in 1925 sales of nearly fifteen million feet of incense cedar were reported to this office by our member mills alone. This represents almost one hundred per cent pencil stock. I find further at the end of 1925 fourteen million feet of incense cedar on hand. These sales are in spite of a greatly reduced export market due to the depreciation of foreign currency.

"The average prices f. o. b. mill for 1925 was \$22.15 per thousand feet, or approximately the same price per ton. We have in California alone, over eight billion feet of incense cedar timber available for pencil stock. It is quite obvious that the large companies I have mentioned would not be using large quantities of incense cedar unless it had merit as pencil wood."

Turpentine Small Trees Shows A Loss

There is no profit in turpentine trees that yield less than 25 barrels of spirits from a "crop" of 10,000 trees, according to Lenthall Wyman of the Southern Forest Experiment Station. In his opinion, anyone who works trees smaller than this pays for the privilege.

The Forest Service of the Department of Agriculture has been engaged for some time in perfecting tables that will show with some degree of accuracy the yields of turpentine that may be expected from slash and longleaf pine of various sizes. This work has indicated clearly that from 50 to 35 barrels of spirits per crop are needed to produce satisfactory returns to the operator. The tables show that 7-inch trees yield roughly 25 barrels, based on 32 streaks or tappings, during the season.

To give a fair margin of profit, it is recommended that no tree under 8 inches in diameter at breast height, or 9 inches in diameter at 2 feet above the ground should be worked. In 5 or 6 years such trees will yield 6 or 7 barrels of spirits to the crop more than they do now, and may then be worked at a profit instead of at a loss.

Mention AMERICAN FORESTS AND FOREST LIFE—It Helps

ASK . . ANY . . RADIO . . ENGINEER



This is the Burgess Radio "A" Battery

A SPECIALLY designed "A" battery for radio service. There is nothing like it in its field.

Proportioned to permit ease of handling and convenience of cabinet assembly and storage, you may expect this new Burgess creation to give you the length of service and dependability under all conditions for which all products of Burgess are noted.

If you are using the ordinary type of No. 6 "A" battery, we suggest that you learn for yourself from the Burgess Radio "A" the measure of service you have a right to expect.

Ask Any Radio Engineer

BURGESS BATTERY COMPANY
GENERAL SALES OFFICE: CHICAGO

Canadian Factories and Offices:
Niagara Falls and Winnipeg



BURGESS

RADIO BATTERIES

BECOME A LANDSCAPE ARCHITECT

Dignified, Exclusive Profession not overrun with competitors. Crowded with opportunity for money-making and big fees. \$5,000 to \$10,000 incomes attained by experts. Easy to master under our correspondence methods. Credentials awarded. We assist students and graduates in getting started and developing their businesses. Established 1916. Write for information; it will open your eyes. Do it today!

American Landscape School, 103, Newark, N. Y.

Young outdoor men wanted



To a few sturdy young men—lovers of fresh air and sunshine—who want to get away from the grind of indoor work—John Davey's national organization, The Davey Tree Expert Company, offers an exceptional opportunity. Constantly increasing demand will create a limited number of openings. Those young men selected will be thoroughly trained by the Company and given a permanent position if they make good. If you are single, between 20 and 30 years of age, free to travel, healthy, industrious, having a good practical education, and able to furnish satisfactory references, you have a good chance to qualify. Pay is good at start, advancement assured on merit. We want only men who desire permanent employment in a growing organization and will accept only clean, sturdy young men, thorough Americans, not afraid of vigorous outdoor work. Write for additional information and qualification blank to serve in place of personal interview. The Davey Tree Expert Co., Inc., 663 Federal Bldg., Kent, Ohio.

BOOK REVIEWS

FOREST FRIENDS, by H. R. EVANS. Published by the Judson Press, Philadelphia. Price \$1.50.

This is a collection of short stories of birds, animals, fish and the out-of-doors west of the Rockies. They are, for the most part, the experiences of the author himself, and in other cases those of his friends. It is a most instructive book, and its information is extremely interesting to the uninformed reader. The habits and actions of the wild life of western forest and stream are entertainingly discussed, as well as the ways of some of some of our domesticated animals. The stories are not arranged in definite order, but seem to be presented in just the succession that they came into the writer's mind. They are personal, humorous and delightfully worded. The illustrations, while not numerous, are very fine and the book as a whole is most appealing.

G. I. N.

FOGS AND CLOUDS, by WILLIAM J. HUMPHREYS. Published by the Williams and Wilkins Company, Baltimore, Maryland. 1926. Price \$4.00.

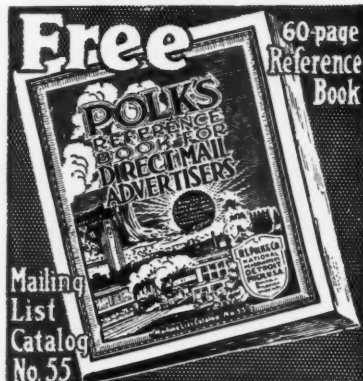
In the preface of his latest book, "Fogs and Clouds," William J. Humphreys explains, in part, "Sooner or later almost everyone becomes a collector, from the small boy with his butterflies and beetles to the dignified custodian of a National Museum. For more than a decade my own hobby has been pictures of fogs and clouds and their associated phenomena."

And in this attractive book we are privileged to see nearly a hundred of the finest examples of the different types of clouds and fogs. How often has one be-

The makers of
Ipana Tooth Paste
believe in protect-
ing and preserving
forests as well as
teeth and gums.

IPANA TOOTH PASTE

BRISTOL-MYERS Co.
40 Rector Street New York



Mailing
List
Catalog
No. 55

Get Business by Mail

60 pages of vital business facts and figures. Who, where and how many your prospects are. 8,000 lines of business covered. Compiled by the Largest Directory Publishers in the world, thru information obtained by actual door-to-door canvass. Write for your FREE copy.

R. L. POLK & CO., Detroit, Mich.
636 POLK DIRECTORY BLDG.
Branches in principal cities of U. S.

NOMINATE YOUR FRIENDS FOR MEMBERSHIP

Fill in the last line and mail the Application to a friend. He will Appreciate the courtesy

Application for Membership in The American Forestry Association

Date.....

The AMERICAN FORESTRY ASSOCIATION

1523 L Street, N. W., Washington, D. C.:

I hereby apply for membership in The American Forestry Association
and enclose \$.....

INDICATE CLASS OF MEMBERSHIP DESIRED

- | | |
|--|----------|
| <input type="checkbox"/> Subscribing membership, per year, including Magazine..... | \$4.00 |
| <input type="checkbox"/> Contributing Membership, per year, including Magazine..... | 10.00 |
| <input type="checkbox"/> Sustaining Membership, per year, including Magazine..... | 25.00 |
| <input type="checkbox"/> Life Membership (no other dues for life), including Magazine..... | 100.00 |
| <input type="checkbox"/> Patron Membership (no other dues for life), including Magazine..... | 1,000.00 |
| <input type="checkbox"/> Annual Membership, without Magazine..... | 1.00 |

Canadian Postage 25c extra; Foreign 50c extra, on Subscribing Memberships

PLEASE LETTER OR TYPE NAME AND ADDRESS

Name

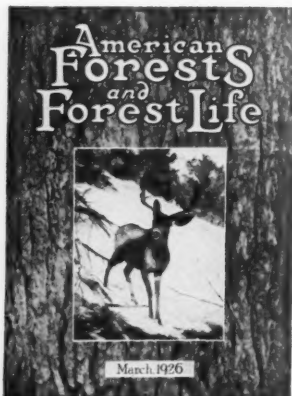
Street

City and State

Business or Profession.....

Nominated by

January, 1927



American Forests and Forest
Life is sent monthly to all
except Annual Members

held the far-flung glory of fleecy white in the sky, only to wonder in vain what sort of cloud it is? Mr. Humphreys tells us in this volume and shows actual photographs that not only clearly indicate the type of cloud and fog but are in themselves pictures of rare artistic beauty. His descriptions are thorough, concise and above all intensely interesting.

Beginning in a logical way with the necessary conditions to form the clouds and fogs, the author describes the distinction between the two, pauses for a moment to tell how the clouds got their names and proceeds with actual brief vivid descriptions. Chapter Four tells of the thousand and one mysteries concerning these wanderers of the sky; why they float, their relation to the earth and many other perplexing questions—even to their time-honored position as weather signs. And the concluding chapter gives a glimpse of the cloud splendors—the rainbow, the halo and the corona.

This book might well be described as a key to the clouds for it unlocks a wealth of absorbing text and fascinating photographs.

H. L. S.

New Reforestation Impetus

A new idea in reforestation has been started at Bogalusa, Louisiana, under the supervision of the Great Southern Lumber Company. One and one half acres of ground were planted with 650 pine seedlings, and each seedling numbered. A sign placed on the area states that it is the property of the National Retail Lumber Dealers Association, planted on the occasion of their visit there on November 12. Each lumberman was given a tree and the number handed to him corresponded with the number already attached to his tree.

From time to time these lumbermen will be notified as to how their particular tree is progressing. Every year at the annual meeting of the Association a photograph of the plot and a full report will be submitted by the Great Southern Lumber Company who will be caretakers serving without expense to the Association. The visitors were very enthusiastic over the plan, and will watch results with interest.



South Carolina Issues New Bulletin

"Forests and Forestry in South Carolina" by Henry H. Tryon, Extension Forester, has just been issued as Bulletin 81 by Clemson Agricultural College in co-operation with the United States Department of Agriculture.

This is the most comprehensive publication on forestry ever issued by the State. It is designed to show the forestry situation there, to set forth the possibilities of forest lands and the economic benefit derived from their proper use. Cutting methods and the problem of restocking idle lands are discussed in detail, as well as the important topics of waste in logging and milling.

Mr. Tryon has succeeded in producing a timely and helpful contribution to forest literature.

New West Virginia Publication

The First issue of *Forest, Game and Fish News*, published by the West Virginia Game and Fish Commission and containing many interesting conservation items, has just been received. The Commission announces that these bulletins will be issued from time to time in behalf of better conservation of forests, game and fish.

West Virginia shows a very substantial annual increase in funds received from the sale of licenses since the creation of the Commission. The year 1921 recorded the receipt of \$50,000 while \$132,000 was collected during 1925, and it is anticipated that the revenue for 1926 will be about \$140,000.

Through the erection of four steel towers the past summer, more than half a million acres of forest land were added



Save Your Magazines During 1927

EVERY number of the AMERICAN FORESTS AND FOREST LIFE is worth reading again and again. Seated in your favorite arm chair you can idly turn over the pages and live over your last vacation and other vacations in days gone by, all conspiring to make you more and more a lover of the great out of doors.

Grasp this opportunity for greater enjoyment from your magazines—bind them in our special two-tone, hand colored, embossed covers and they will be preserved to give you a lifetime of enjoyment.

Many requests make it possible for us to offer you these artistic, leather-like covers, pictured above, especially created for our members, in which you can insert each issue as you receive it in a half minute, without any punching, "spare parts" or other annoyances to try your patience.

By keeping each issue neat, clean and intact in this attractive cover, you soon complete a permanent volume equal in appearance to the best binding on your library shelves.

Two dollars each net regardless of the number ordered. Postage will be prepaid to any part of the United States. For foreign or Canadian cities, add 25 cents for postage on each binder.

Each binder holds twelve issues and is guaranteed. Your money refunded if you are not more than pleased.

The American Forestry Association

1523 L St. N. W., Washington, D. C.

MAIL THIS COUPON—PRINT PLAINLY

The American Forestry Association,
Washington, D. C. Date _____

Gentlemen:

Send me _____ distinctive covers for
American Forests and Forest Life,

postpaid, for which I enclose \$_____.
If I am not unusually well pleased I will
return them to you promptly in 5 days,
and my money and postage will be re-
turned to me.

Name _____

Street _____

City and State _____

Mention AMERICAN FORESTS AND FOREST LIFE—It Helps

Regulation



UNITED STATES

Forestry Style Uniform

No guess work when you buy an outfit here—It will look right, fit right, wear right and—BE RIGHT—

RIGHT from start to finish.

Write for NEW Illustrated Catalog with Samples and Prices attached.

Write for our Shirt Folder

SMITH-GRAY

729 Broadway

New York

P. T. COOLIDGE

FOREST ENGINEER

TIMBER ESTIMATES AND VALUATION
LOGGING PLANS TOPOGRAPHIC MAPS

31 CENTRAL ST., BANGOR, MAINE

Authorized Manufacturers

Regulation Uniforms

For

U. S. Forest Service

Strictly Made - to - Measure of Regulation

FORESTRY FABRICS



Write for descriptive measure blank, samples and prices

THE FECHHEIMER BROS. CO.

4th and Pike Sts., Cincinnati, Ohio

JAMES W. SEWALL

Consulting Forester

OLD TOWN, MAINE

Largest Clothing House in America

to the area under forest fire protection. Nearly 300 miles of telephone line have been constructed from these towers in order that fires may be reported immediately by observers. Four years ago the amount of forest land under protection was one and a quarter million acres, today it amounts to over four and one half million acres.

A "Forest Primeval" Laboratory

For research and experimental purposes, an area of 280 acres of virgin forest in the Wind River valley, of Washington, has been set aside to be kept perpetually intact in its primeval condition. This piece of land within the Columbia National Forest is a typical over-mature Douglas fir-hemlock forest, with a little of the cedar swamp type.

The Pacific Northwest Forest Experiment Station will use this tract for research studies on the rate of growth of old timber stands, the life history of the reproduction, undergrowth and herbage, the decays that affect such forests, fire hazard, and other measurements and investigations which must be made in virgin woods to get a comparison with conditions in open, cutover land or in young stand.

The area will eventually become a museum piece for future generations so that they may see the type of forest that once covered western Oregon and Washington.

Tioga County, New York, Plants

Tioga County, New York, is the latest to join the ranks and undertake the planting of a county forest. One hundred thousand trees have been ordered, for this purpose, from the State Conservation Commission. It is expected that these trees will be planted on unused land in the county farm.

The Farm Bureau and the Forestry Committee of the Board of Supervisors are supervising the project which was presented to the Board of Supervisors by Norman H. Eason, County Agent. The plan met the immediate approval of the board as an intelligent and profitable use of land that is now producing nothing.

Wood Pulp Production and Pulpwood Consumption

Maine, Wisconsin and New York are the three leading states in the production of wood pulp, according to information recently released by the Department of Commerce from data collected in cooperation with the Department of Agriculture.

The total production of wood pulp in 1925 was 3,962,217 tons which is an increase of 6.4 per cent over the figure of 3,723,266 tons for 1924.

The total consumption of pulp wood in 1925, as reported by 234 mills, amounted to 6,093,821 cords, whereas the figure reported by 239 mills for 1924 was 5,768,082 cords, showing an increase of 5.6 per cent for 1925.

Natural Regeneration Adequate in Southeastern Alaska

Observations on the Tongass National Forest in Alaska indicate that in this region of humid climate natural regeneration is assured. All cutover areas examined are adequately stocked. The principal problem is to devise methods to insure ample reproduction of the most valuable spruce species.

The most outstanding result of recent studies is the indication that practically all new reproduction is from seed distributed over the area the fall before cutting and after cutting. If there is any stored seed, which appears doubtful, one cannot depend on that source for natural regeneration. Slash burning appears not to insure adequate reproduction or favor spruce, the later being quite uncertain. There is no cut-over area at present so extensive but what adequate seeding from the side takes place over the whole area, so it is apparently impossible under present conditions to appreciably control the per cent of species in the next stand. However, on extensive cutting areas, as is likely to be the rule in future pulp sales, the composition of the next stand undoubtedly could be almost completely controlled (and seemingly the only way) by the regulation of seed supply and possibly by burning. Economic conditions will determine, to a large extent, how far the Forest Service can go in this matter.

Winter Sap Too Thick To Freeze

Why do the leaves of evergreens hang on all winter long, when by rights they should be frozen and drop off? According to researches of Dr. Floyd W. Gail in the *Science News Letter* of the University of Idaho, they stick because in winter their sap becomes too thick to freeze.

Dr. Gail gathered leaves from pine trees and from broad-leaved evergreen shrubs once every month through three years, crushed out the sap and tested it for its freezing point. He found that during the summer when the weather is warm and the sap flows freely it is relatively thin and could be frozen easily if there were any frost to freeze it. But as fall comes the starch in the leaves is converted into sugar and oil, changing the sap from a thin and watery fluid into a sort of syrupy emulsion, very difficult to freeze. He found that the greatest density of the sap was reached during late January and February, when the most severe freezing weather occurs. Deciduous trees, that lose their leaves in autumn, show some thickening up of the sap, but apparently the sugars are transferred into the tree before the leaves drop off, for Dr. Gail found that the sap pressed from leaves that had just fallen was easily frozen, whereas sap from leaves not quite ready to fall resisted the effects of considerably lower temperatures.

School of Forestry

University of Idaho

MOSCOW, IDAHO

Offers thorough training in Practical Forestry, preparing for federal, state and private work.

Four and Five Year Courses, leading to the degrees of Bachelor of Science in Forestry and Master of Science in Forestry respectively.

Opportunity is given to specialize in General Forestry, Logging, Engineering, and Range Management.

Large logging and milling operations, important wood-working industries, also extensive federal, state, and private forests near at hand. Excellent opportunity for summer employment.

For further particulars address

FRANCIS G. MILLER, Dean

Choosing a School

The schools whose advertisements appear in **AMERICAN FORESTS AND FOREST LIFE** are the leading forestry schools in their respective localities. They offer a well balanced curriculum and the inspiration of leaders in the profession of forestry.

Members may select from them with the full assurance that they are choosing from the best.

Harvard Forest

Petersham,
Massachusetts

A forest experiment station of two thousand acres, 14 years under management on a sustained yield. Large variety of silvicultural treatment in progress. Logging, milling, and marketing annually carried on. Extensive plantations established from the Forest nursery.

Competent graduate students accepted as candidates for degrees of M. F. or D. S.

RICHARD T. FISHER
Director

The New York State College of Forestry

Syracuse University
Syracuse, N. Y.

A FOUR-YEAR course in Pulp and Paper Manufacture and a short course each spring in Dry-kiln Engineering and Lumber Grading are regularly given. The State Forest Experiment Station of ninety acres at Syracuse, the Charles Lathrop Pack Demonstration Forest of 1,000 acres at Cranberry Lake, three other experiment stations, the Roosevelt Wild Life Forest Experiment Station, a modern pulp mill, a well-equipped sawmill, a complete dry-kiln plant, the biological laboratories, and an excellent reference library afford unusual opportunities for research and instruction. In addition to the regular four-year undergraduate courses, special courses are offered that lead to the degrees of Master of Forestry, Master of City Forestry, Master of Science, Doctor of Philosophy, and Doctor of Economics. Students may elect work in nine different fields.

FRANKLIN MOON, Dean

Forestry Training in the Heart of the Rockies

Colorado School of Forestry
A Department of Colorado College

Undergraduate and graduate courses in Technical Forestry. Forestry teaching in spring and fall at Manitou Forest (a 7,000-acre Forest belonging to the School), and the winter term at Colorado Springs.

Gordon Parker, Director
Colorado Springs, Colorado

University of Maine

Orono, Maine

The Forestry Department offers a four-years' undergraduate curriculum, leading to the degree of Bachelor of Science in Forestry.

Opportunities for full technical training, and for specializing in forestry problems of the northeastern States and Canada.

Eight-weeks' camp-course required of all Seniors in Forestry, in practical logging operations in northern Maine, under faculty supervision.

For Catalog and further information address

JOHN M. BRISCOE
Professor of Forestry

Oregon School of Forestry

Located in the center of the last great stand of virgin timber in the United States.

Offers four and five-year courses in professional forestry, logging engineering, and lumber manufacture.

Field work in the magnificent Oregon forests, easily accessible from the school. The largest logging operations and lumber manufacturing plants near at hand.

Summer work readily obtainable in the Forest Service, in logging camps, and in the mills.

For catalog and further information, address

G. W. PEAVY, Dean

Oregon State
Agricultural College

Corvallis - - - Oregon

Yale School of Forestry

Established in 1900

A graduate department of Yale University, offering a two years technical course in forestry leading to the degree of Master of Forestry.

Special opportunities are provided for advanced work and research in the laboratories and the school forests.

For further information and catalog address

The Dean of the School of Forestry

New Haven, Conn., U. S. A.

PACIFIC PUMPERS

ARE TRULY PORTABLE



Lack of vibration and lightness is indicated by fact that one man can lift and handle the outfit while it is operating at full capacity.

WEIGHT 70 POUNDS

The PACIFIC PUMPER has by far the highest efficiency with the lowest actual weight of any of the leading portable units on the market. The weight is so nicely balanced and evenly distributed that it is an easy one-man pack with the ordinary pack saddle.

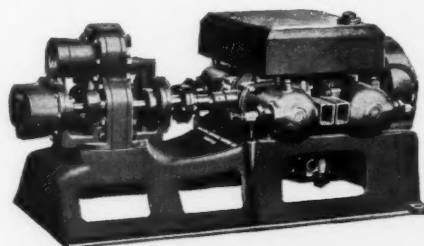
The outfit meets every requirement for a pumping unit for forest fire fighting service.

NO VIBRATION

The PACIFIC PUMPER is so constructed as to be practically free from vibration. It can be operated on the flimsiest foundation, its weight being sufficient to hold it in the position in which it has been set.

Vibration is the greatest cause of motor wear. The elimination of vibration means long life to all wearing parts and is a guarantee against expensive upkeep and repair.

The PACIFIC PUMPER never needs to be staked down; it stays where it is put and does not dig itself in if set on soft ground.



This little pumper, at 150 pounds pressure, will put water to the top of a 345-foot hill through 1½-inch rubber-lined hose. It is capable of pressures up to 200 pounds.

Write for complete specifications

Pacific Marine Supply Company

NEW ENGLAND REPRESENTATIVE
A. H. BLANCHARD,
25 Hampshire Street, Cambridge, Mass.

SEATTLE, WASH.

WASHINGTON, D. C.
BARBER & ROSS, INC.
11th and G Streets, Northwest.

